

# MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,  
Mining, Contracting, Engineering, Building, and General  
Business Interests of the South and Southwest

Vol. 71  
No. 26

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\$4.00 Per Year  
Single Copy 15 Cents

## "Our Only Safety to Meet the Enemy on His Own Threshold"

From a remarkable book published in 1852 the following paragraphs are taken:

"I maintain it to be the dictate of high policy, whenever the battle shall be joined in earnest in that final conflict between freedom and despotism, which is unavoidable and may not be remote, to display the banner of the Republic in the cause of the rights of nations and of man for our own defense.

"A wise precaution spontaneously suggests the opening of diplomatic conferences with England, that two free nations of the world may face together their common foe in that day of trial.

"If, therefore, it be possible so to aid the cause of Europe and freedom that it may be crowned with success and grasp the scepter of rule, it is the plainest dictate of sound policy, quite level to the comprehension of common-sense, to let no opportunity slip, effectually, earnestly, boldly, at whatever expenses of men or money, to secure its triumph as the best and only safe defense of our security.

"Though the stars and stripes float on a thousand fields of Europe, we shall incur no more hate, no more danger, no greater certainty of that 'tremendous combination' than now hang over us as the inevitable consequence of the final triumph of despotism in Europe. The policy of indifference is the only fatal one; leaving our own to stand on foreign ground is merely meeting the invader at his own threshold, and it is our only safety."

In this issue we give other remarkable statements from a remarkable book by one of America's great statesmen of early days—Henry Winter Davis of Maryland, whose forecast of what is now come to pass reads like a prophecy fulfilled.

BALTIMORE, JUNE 28, 1917

# Bethlehem Steel Company

General Office—South Bethlehem, Pennsylvania

Announces the purchase of the property and plants of the AMERICAN IRON AND STEEL MANUFACTURING CO., located at LEBANON AND READING, PA., which with the BOLT AND NUT DEPARTMENT at STEELTON gives a complete range of sizes and variety of bolts and nuts.

We solicit your inquiries and assure prompt attention to your orders, and ask you to communicate with our nearest BRANCH OFFICE.

We are prepared to furnish:

## BOLTS

Machine, Carriage, Lag, Plow, Patch and Track.

## NUTS

Hot Pressed, Cold Punched, Forged, Finished, Case Hardened and Castle.

## RIVETS

Boiler, Bridge, Structural, Ship, Tank and Tap.

## SPIKES

Standard R, R., Screw Track, Universal Screw, Boat, Dock and Wharf.

## BAR IRON

Refined, Chain, Double Refined, Engine Bolt, Staybolt and Special Staybolt.

## HEAT TREATED TRACK

Frog and Fitting-up Bolts in SIMPLE ALLOY and MAYARI Steels.

### BRANCH OFFICES:

Atlanta.....	Candler Building	Detroit.....	Penobscot Building
Boston.....	Oliver Building	New York.....	Trinity Building
Baltimore.....	Continental Building	Philadelphia.....	Morris Building
Cleveland.....	Guardian Building	Pittsburgh.....	First National Bank Building
Chicago.....	People's Gas Building	St. Louis.....	Boatmen's Bank Building
	San Francisco.....		Crocker Building

### WAREHOUSES:

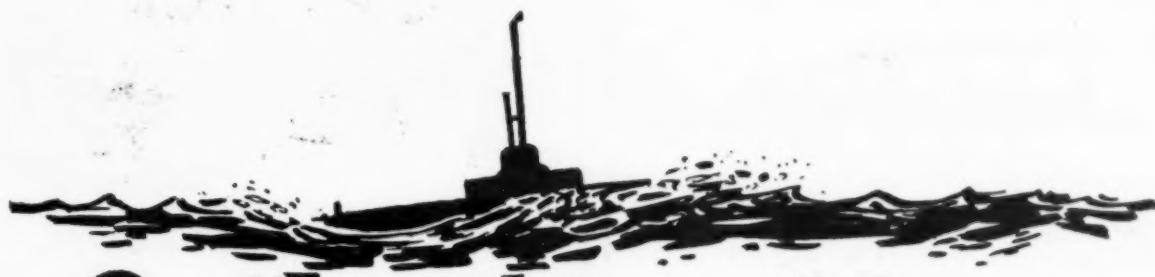
South Bethlehem      Lebanon      Boston      Cleveland











# Submarine Nets

## *What they mean to the User of Wire Rope*

Undoubtedly a large quantity of new wire rope will be diverted to Government use for Submarine Nets.

You may be sure that hoist rope is going to be scarce—and costly.

But there's a way out.

And it is the only way left to you.

Make the present wire rope last longer.

How?

Protect it—lubricate the hoist ropes properly.

The "Crater Book" tells you how.

It tells what TEXACO CRATER COMPOUND, the great wire rope lubricant and preserver is doing to lengthen the life of old and new wire rope.

Sure it is free.

But you've got to ask for it.

Coupon below—Use it.



## THE TEXAS COMPANY

Dept. M, 17 Battery Place, New York City

HOUSTON

CHICAGO

NEW YORK



Offices in Principal Cities

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### The Texas Company

Dept. M, 17 Battery Place, New York City

I want to know how to apply CRATER COMPOUND and how and why CRATER saves wire rope. Send me the CRATER BOOK.

Name.....

Address.....

City.....State.....

# ALLIS-CHALMERS

MANUFACTURING COMPANY

MILWAUKEE, WIS.

## Power and Electrical Machinery

Steam Turbines  
Hydraulic Turbines  
Corliss Engines  
Gas Engines  
Electric Motors

Electric Generators  
Pumping Engines  
Air Compressors  
Condensing Apparatus  
Centrifugal Pumps

Oil Engines, Etc.

Combined contracts for complete power units with undivided responsibility insure satisfactory service.

### Offices in All Principal Cities

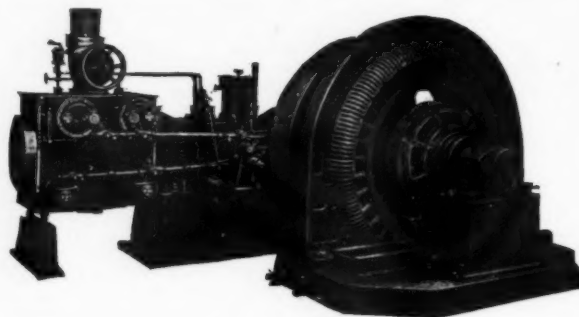
For all Canadian Business refer to Canadian Allis-Chalmers Co., Ltd., Toronto, Ontario, Canada.

FOREIGN REPRESENTATIVES: H. I. Keen, 732 Salisbury House, London Wall, E. C., London, Eng. Frank R. Perrot, 883 Hay St., Perth, W. Australia. Frank R. Perrot, 204 Clarence St., Sydney, N. S. W. Mark R. Lamb, Huerfano 1157, Casilla 2663, Santiago, Chile.

### DISTRICT OFFICES.

Atlanta, Ga., 1104 Healy Bldg.  
Boston, Mass., 59 Congress St.  
Buffalo, N. Y., Ellicott Square Bldg.  
Chicago, Ill., People's Gas Bldg.  
Cincinnati, O., First National Bank Bldg.  
Cleveland, O., Schofield Bldg.  
Dallas, Tex., Sumpter Bldg.  
Denver, Col., First National Bank Bldg.  
Detroit, Mich., Ford Bldg.  
Duluth, Minn., Alworth Bldg.  
El Paso, Tex., 2900 San Diego St.  
Kansas City, Mo., Waldheim Bldg.  
Los Angeles, Cal., Title Insurance Bldg.

Milwaukee, Wis., West Allis Works.  
Minneapolis, Minn., Corn Exchange Bldg.  
New Orleans, La., Maison Blanche Bldg.  
New York, N. Y., 50 Church St.  
Philadelphia, Pa., Pennsylvania Bldg.  
Pittsburgh, Pa., 1209 Park Bldg.  
Portland, Ore., Lumbermen's Bldg.  
St. Louis, Mo., Railway Exchange Bldg.  
Salt Lake City, Utah, Kearns Bldg.  
San Francisco, Cal., Rialto Bldg.  
Seattle, Wash., 115 Jackson St.  
Toledo, O., Ohio Bldg.



Where there's hard work to do,  
Where the load fluctuates through wide ranges,  
Where close regulation is required, and  
Where operating economy is essential,  
*That's where you need a Ball Corliss Engine.*

The modern power plant offers problems which embody all or part of these conditions. Ball Engines handle satisfactorily any or all of these requirements, and they do it with absolute reliability.

Ball Engines are built to "Stay on the job," and that is why they are installed in many of the most important plants throughout the country, plants that require the best and most dependable service.

*Write for our Corliss Bulletin.*

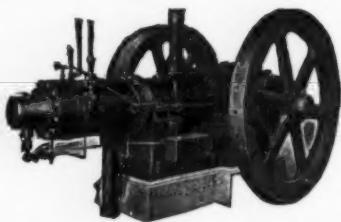
**Ball Engine Company**  
**Erie, Pa.**

## For Lighting Pumping or Power Plants

— USE —

### MUNCIE CRUDE OIL ENGINES

Standard  
Types  
10 to 35  
H. P.



Heavy  
Duty Types  
40 to 125  
H. P.

USES LESS THAN  $\frac{1}{4}$  PINT PER H. P.

Catalogue and Specifications on Request.

### MUNCIE OIL ENGINE COMPANY

1216 Monroe St.

Muncie, Ind., U. S. A.

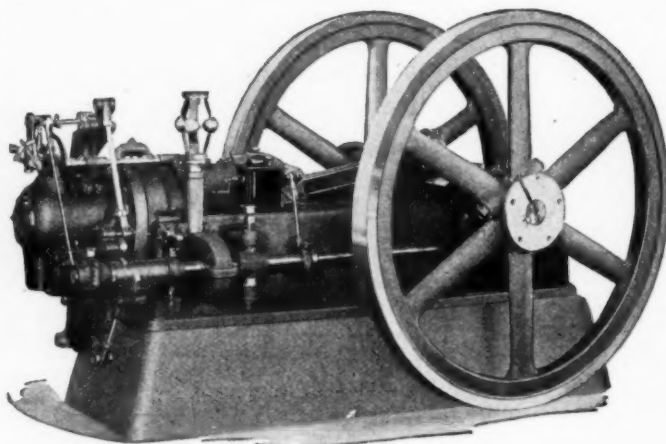
## Elevating, Conveying and Power Transmitting Machinery



**H. W. CALDWELL & SON CO.**

CHICAGO: 17th Street and Western Avenue

DALLAS, TEX.: 709 Main Street



License under the R. M. Hvid Co. Patent.

Will run on any oil from kerosene to the cheapest, heaviest, lowest grade oil, in fact any oil liquid enough to flow, except gasoline.

No carburetor, no electric ignition.

Simplest construction and simplest engine to operate—Reliable at all times, requiring no attention.

Total absence of carbon.

Runs as steady as an electric motor under any load, and at one-third the cost.

On account of the low consumption of oil, it is the cheapest power obtainable. Will replace electricity or steam, with less trouble, and at much lower operating cost, and with the first cost of installation less.

Fuel fed to cylinder by gravity—no hot ball, tube or auxiliary ignition device of any kind needed.

Will start at the turn of the fly wheel on the same fuel it operates on in the coldest climate.

This engine will not run on gasoline.

Prices and complete detailed information on application.

Are ready to make agency contracts with a few more reliable dealers.

### DIAMOND IRON WORKS

MINNEAPOLIS

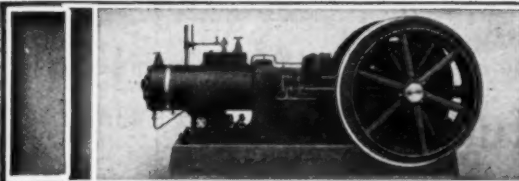
MINNESOTA, U. S. A.



# STIMPSON-EYELETS



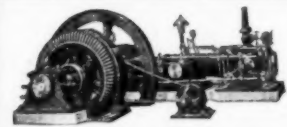
170 FRANKLIN AVENUE BROOKLYN, NEW-YORK



## LOOMIS OIL ENGINES

USE ECONOMICALLY THE CHEAPEST GRADES OF FUEL OIL  
FOR GINNING, ELECTRIC LIGHTING, IRRIGATING, REFRIGERATING, ETC.

MADE BY  
**THE JOHNSTON & JENNINGS CO.**  
577 ADDISON RD. CLEVELAND, OHIO, U.S.A.



## CORLISS ENGINES

Boilers of All Styles and Sizes  
**MURRAY IRON WORKS COMPANY**  
BURLINGTON, IOWA  
INCORPORATED FEBRUARY 1, 1870.  
Engine on Exhibition in the Dourse, Philadelphia, Pa.

## The C. & G. Cooper Co. Mt. Vernon, Ohio ENGINE BUILDERS

CORLISS ENGINES  
50 to 10,000 H. P.

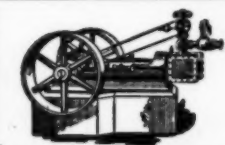
81 Years of Experience

GAS ENGINES  
200 to 3000 H. P.

## Morgan Construction Company WORCESTER, MASS.

Manufacture the Morgan Producer-Gas Machines and  
Dyblie Gas Reversing Valves, whose records of capacity, effi-  
ciency and labor-saving stand pre-eminent.

Many complete Gas plants on open hearth service are now being  
installed for leading steel works.



## Schofield Engines GUARANTEED For Heavy Duty

From FACTORY to YOU

If you are looking for an engine to withstand heavy  
duty—an engine that is well adapted for the saw  
mill, oil mill and the cotton ginner, or wherever an engine  
can be used to advantage—investigate the Schofield Engine.

### Long Wear—Less Steam

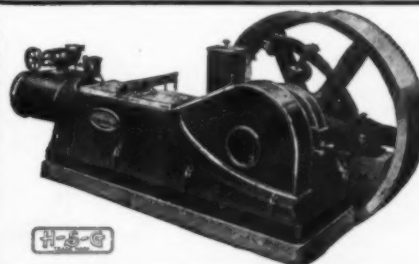
In wearing qualities and the economy of steam, the Schofield Engine is unsur-  
passed. Sixty-seven years of experience has enabled us to produce the  
highest quality and type of engine—and one we can fully guarantee.  
All sizes, Center Crank type—12 horse power to 100 horse power—  
side crank type 50 horse power to 150 horse power.

We also manufacture boilers, tanks, towers, smoke stacks, and mills,  
and all kinds of machinery—mill supplies, pipe, galvanized roofing, etc.

Write today for prices and catalogue containing illustrations  
and specifications.

**Schofield Iron Works, - Macon, Ga.**

FREE  
Catalog  
TANKS and TOWERS,  
BOILERS and ENGINES  
a Specialty.



## Completely Enclosed Automatically Oiling Engine

Built by

**The Houston Stanwood &  
Gamble Co.**

CINCINNATI, OHIO

## HAVE YOU TRIED WALL'S EVERLASTING-STEEL TORCHES and OILERS

They are Guaranteed. Write

**The P. Wall Mfg. Supply Co.**

**Allegheny, Pa.**

Construction engineers desiring a dependable, flexible,  
armored electrical conductor should specify "REALFLEX."

They will find it really flexible and really armored. The  
protective covering of heavily galvanized steel wire is rat-  
proof and rust-proof. It is as flexible as ordinary garden  
hose, fits any standard connection, and makes a handsome  
job that stays handsome.

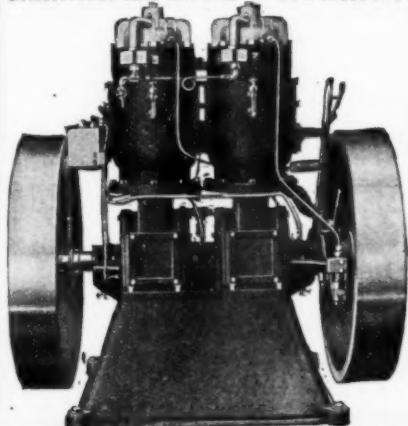


"REALFLEX" is frequently substituted for rigid con-  
duit on complicated installations with economy and satis-  
faction.

Samples and descriptive literature will be sent on appli-  
cation.

**The Youngstown Sheet & Tube Company**  
Successor to The Western Conduit Company  
Youngstown, Ohio

STATIONARY AND MARINE • 3 1/2 to 300 H. P.



## "REMINGTON" OIL ENGINES

START and OPERATE  
On Crude Oil, Low Grade Fuel  
Oil, and Kerosene

Very Little Attention Is Required  
When Engine Is Operating.

POWERFUL, RELIABLE  
SAFE, ECONOMICAL

For Lighting, Pumping Stations  
and General Industrial Plants.

Write for Bulletin No. 22

**THE REMINGTON OIL ENGINE CO.**  
30 Church St. NEW YORK

"WITHOUT AN EQUAL FOR SIMPLICITY"

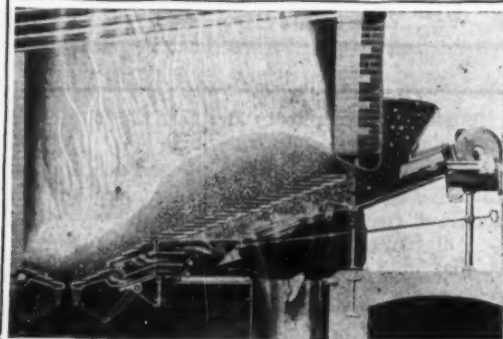
# Westinghouse

## Underfeed Stoker

This list of Westinghouse Underfeed Stokers installed and on order was prepared to show their wide distribution throughout the United States:

Purchaser.	No. of Units.	Total Boiler H. P.
Consumers' Power Co., St. Paul, Minn.	4	2000
Norfolk & Western R. R. Co., Blue- stone, W. Va.	10	6670
(Repeat Order).....	2	1334
Public Service Electric Co., Jersey City, N. J.	5	3000
(Repeat Order).....	5	3250
United Gas & Elec. Engr. Corp., New Orleans, La.	1	900
(Repeat Order).....	2	1800
(Repeat Order).....	5	4500
Minneapolis General Electric Co. (H. M. Bylesby & Co.), Minneapolis, Minn.	12	7200
(Repeat Order).....	5	6310
American Gas & Electric Co., Windsor, W. Va.	5	6310
(Repeat Order).....	3	3786
(Repeat Order).....	4	5048
(Repeat Order).....	4	5048
Western Lt. & Power Co., Lafayette, Colo.	1	411
(Repeat Order), Cheyenne, Wyo.	2	911
(Repeat Order), Lafayette, Colo.	4	1644
Transit Supply Co., Minneapolis, Minn.	1	550
(Repeat Order).....	11	6050
Interstate Light & Power Co. (H. M. Bylesby & Co.), Galena, Ill.	2	820
(Repeat Order).....	4	1640
(Repeat Order).....	2	820
Arkansas Valley Ry., Lt. & Pr. Co. (H. M. Bylesby & Co.), Canon City, Colo.	3	1800
Union Elec. Lt. & Pr. Co., St. Louis, Mo.	10	5580
(Repeat Order).....	6	3348
Alabama Power Co., Birmingham, Ala.	5	6000
Edison Electric Illum. Co., Boston, Mass.	8	4096
(Repeat Order).....	6	3348
Union Gas & Elec. Co., Cincinnati, O.	8	10096
Duluth & Iron Range R. R. Co., Two Harbors, Minn.	4	1000

Write for descriptive circular.



### Wonderful Reserve Power

—NO waste—NO idle equipment  
—NO banked fires — NO spare  
boilers to be held in readiness for the  
daily peaks. For the Westinghouse  
Underfeed Stoker embodies IN ITS  
DESIGN a wonderful flexibility—a  
gigantic overload capacity.

**Westinghouse Electric &  
Manufacturing Co.**

**East Pittsburgh, Pa.**

*The Choice of a Stoker Always Nar-  
rows Down to a Study of  
Plant Requirements.*



*The  
Westinghouse  
Underfeed  
is Rapidly  
Becoming  
the  
Standard*





**M**ANUFACTURERS of Industrial Trucks and Tractors appreciate the importance of a dependable battery as relating to the efficient performance of their product. The "Ironclad-Exide" battery, in consequence, is used by every manufacturer of Industrial Trucks and Tractors in the country.

Unusual strength, great capacity, long life and ability to withstand the hard usage incidental to Industrial Truck service makes the "Ironclad-Exide" the one best battery for this purpose.

If you want service satisfaction from your Industrial Truck and Tractor, insist that it be equipped with an "Ironclad-Exide" battery.

## THE ELECTRIC STORAGE BATTERY CO.

New York Boston Rochester Minneapolis  
St. Louis Atlanta Cleveland Kansas City

Philadelphia, Pa.  
1888-1917

Pittsburgh  
Washington

Chicago  
San Francisco

Denver

Detroit  
Toronto

## Electrical Machinery Repaired

GENERATORS—ARMATURES—TRANSFORMERS



Burned Out Motors and Generators Rewound. High Grade Armature Rewinding. Prompt Service. Workmanship Guaranteed.

CHARLOTTE ELECTRIC REPAIR CO. Charlotte, N. C.  
The Best Equipped Electrical Repair Works in the South

Largest and Best Assorted Stock

— OF —

## ELECTRICAL SUPPLIES

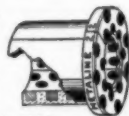
— IN THE SOUTH —

Baltimore Electrical Supply Co.  
ATLANTA, GA.



The Automatic Reclosing  
Circuit Breaker Company  
COLUMBUS, OHIO

Southern Representatives:—McClary-Jemison Machinery Co., Birmingham, Ala. The Tennessee Mill & Mine Supply Co., Knoxville, Tenn. Superior Supply Co., Bluefield, W. Va.



## METALINE

(Trade Mark Reg.)  
Most Reliable, Positively Oilless,  
Least Wearing, No Fire Danger.  
BUSHINGS for LOOSE PULLEYS

THE METALINE  
COMPANY  
Corporate name changed from North American Metaline Co.  
West Ave., Cor. 3rd St., Long Island City, N. Y.

## ORE WASHING AND SCREENING MACHINERY

We are the largest Manufacturers in the South of ore washers, top screens or sizing drums, sand screens, picking belts, etc., etc., for washing and screening iron ores, manganese ores, barytes, zinc, ochre, phosphate, etc. Address

Davis Foundry & Machine Works Rome, Ga.

## SAND FOR CONCRETE

Washed and Screened. Equipped to fill large orders. Prompt Service.

CEMENT GRAVEL SLAG  
MACON FUEL & SUPPLY CO.  
MACON, GA.

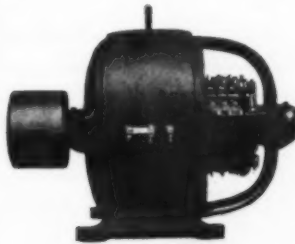


DUNCAN HIGH EFFICIENCY  
Transformers for Heavy Duty  
PROMPT SHIPMENTS  
PIEDMONT ELECTRIC CO., Asheville, N. C.



## Consider Your Manufacturing Problems

in the order of their importance. Your motive power is the most important of all. Protect your plant from failure in power equipment by installing reliable motors and individual motor drive.



Form I—D. C. Motor  
3.75 to 50 H. P.  
(One of the most popular types)

The increasing use of C-W motors is due to the realization of the vital part reliable motive power plays in efficient production.

Let us aid you in solving your power problems. Write today.

**Crocker-Wheeler Company**

Equitable Building

Baltimore, Maryland

## BEST GRADE RENEWED LAMPS

Both Carbon and Tungsten Types

WE GUARANTEE YOU MOST FOR THE MONEY

## BOSTON-ECONOMY LAMP DIVISION

National Lamp Works of General Electric Co.

128 Maple Street

DANVERS, MASS.

TOWER-BINFORD ELECTRIC & MANUFACTURING COMPANY  
ELECTRICAL APPARATUS AND SUPPLIES  
RICHMOND, VIRGINIA

## ALUMINUM

Feeder Cable Bare and Insulated  
Transmission Cable  
Aluminum-Steel Reinforced

FOR

EXCEPTIONALLY LONG SPANS

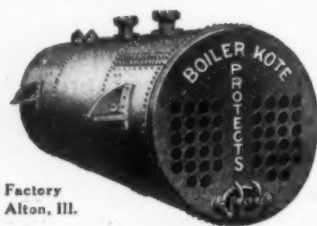
ALUMINUM CO. OF AMERICA

PITTSBURGH, PA.

WASHINGTON

CHICAGO

KANSAS CITY



Factory  
Alton, Ill.

#### Stopped All Scale Trouble

Boiler-Kote treated the boilers in which the water analyzed below was used, ended all scale trouble and stopped pitting and corrosion.

Insoluble.....	7.8%
Oxide of Iron.....	67.8%
Alumina.....	14.6%
Carbide of Lime.....	6.8%
Magnesia.....	2.1%
	99.1%

## YOUR BOILERS How to Rid Them of Scale and Corrosion

Is the title of a little book we will be glad to send to any Engineer, Superintendent, General Manager, Purchasing Agent or Owner of a Power Plant. It tells the important things you ought to know about scale, pitting and corrosion in steam boilers, and how

### BOILER-KOTE Protects Boilers

by first harmlessly removing the scale and then coating the sheets, tubes and flues with a thin mineral glaze to which scale cannot stick and which successfully resists the corrosive, pitting action of the feed water. We do not care how bad your feed water is, because we treat the metal. Absolute satisfaction guaranteed or no pay. Let us send you a trial barrel of Boiler-Kote to prove its merits.

**The Boiler-Kote Company** 343 S. Dearborn St. CHICAGO, ILLINOIS

#### BOILERS

#### TANKS



SMOKE STACKS  
RIVETED PIPE  
STEEL BARGES

GRATE BARS  
FIRE FRONTS  
STEEL BOILER SETTINGS

THE WALSH & WEIGNER BOILER CO.  
MANUFACTURERS OF HIGH-GRADE  
**BOILERS**  
CHATTANOOGA, TENN.  
Write us for Prices before placing your order

The "Farmer" Standard Grate Bar  
Manufactured by  
James River Foundry & Machine Co.  
LYNCHBURG, VA.  
Iron, Brass and Aluminum Castings



THE CASEY-HEDGES CO.  
Water Tube Marine Return Tubular **BOILERS** Special Plate and Tank Work  
NEW ORLEANS—CINCINNATI—CHICAGO  
CHATTANOOGA, TENN.

## STOCK HORIZONTAL BOILERS

Constructed in accordance with the rules adopted by the American Society of Mechanical Engineers.

Better boilers cannot be made. They are offered subject to prior sale.

Write for Bulletin SB-M.

**COATESVILLE BOILER WORKS**

Works  
Coatesville, Pa.

Sales Offices New York, 30 Church St.  
Phila., Pa., Morris Bldg.

## HARTLEY BOILER WORKS

BUILDERS OF HIGH GRADE BOILERS

Stand Pipe, Self-Supporting Stacks, Tanks, Towers, all kinds of Structural and Plate Iron Work, Boiler Fronts, Grate Bars, all kinds of Castings.

MONTGOMERY, ALA.

## THE LOOKOUT BOILER & MFG. COMPANY

TANKS—FOR ALL PURPOSES—BOILERS  
STACKS, TOWERS, STANDPIPES, STEEL PLATE & SHEET METAL WORK  
CHATTANOOGA, TENN., U. S. A.

## THE BABCOCK & WILCOX COMPANY

85 Liberty Street, NEW YORK

BABCOCK & WILCOX—STIRLING—RUST

## WATER TUBE STEAM BOILERS

STEAM SUPERHEATERS

MECHANICAL STOKERS

WORKS—BAYONNE, N. J.

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Atlanta.....Candler Building  
Boston.....35 Federal St.  
Chicago.....Marquette Building  
Cincinnati.....Traction Building

Cleveland.....New England Building  
Denver.....435 Seventeenth St.  
Havana, Cuba.....116 1/2 Calle de la Habana  
Los Angeles.....American Bank Building

New Orleans.....Shubert Arcade  
Philadelphia.....North American Building  
Pittsburgh.....Farmers' Deposit Bank Building

Salt Lake City.....513 Atlas Block  
San Francisco.....Sheldon Bldg.  
Seattle.....Mutual Life Building

## "UNION" WATER TUBE BOILERS



We also make a complete line of Fire Tube Boilers

#### PLEASE NOTE THE FOLLOWING DISTINCTIVE FEATURES:


- 1st—Double horizontal drums, ample steam and water storage, large area steam liberating surface.
- 2nd—Patented purifier in each drum out of path of circulation and fire line.
- 3rd—Patented corrugated flange connection from drums to headers relieves boiler of internal expansion strains and provides ample area for unrestricted circulation.
- 4th—Handhold plates of practical and special design.
- 5th—Greater tube inclination and proper spacing of same facilitates cleaning and promotes combustion and high efficiency.

These and many other features brought out in our new catalogue gladly furnished on application.

**UNION IRON WORKS, ERIE, PA.**



**JULY 4<sup>TH</sup>**



**On to Victory!**

## Pure Air

Is the Best Insurance against Ill Health. **Forced Circulation** is the only guarantee of Pure Air.

**LARAGE**  
KALAMAZOO



Fan Systems  
give Genuine  
Satisfaction.

Initial Cost Lower  
Operating Cost Lower

**LARAGE FAN COMPANY.**

HEATING, VENTILATING & DRYING ENGINEERS.  
KALAMAZOO—MICHIGAN—U. S. A.

## Henry Vogt Machine Co.

Manufacturers of

**ICE AND REFRIGERATING MACHINERY**

**WATER TUBE BOILERS**

**RETURN TUBULAR BOILERS**

**DROP FORGED VALVES AND FITTINGS**

**"SECTIONAL" ROCKING AND  
DUMPING GRATES**

**"SECTIONAL" STEEL CASINGS  
FOR BOILERS**

**Louisville, Ky.**



## Convertible Wye Level

A very reliable instrument for Architects and Contractors. 12-inch achromatic telescope, cross hairs, sunshade and cap. Clamp and tangent to vertical axis, horizontal circle to degrees, by vernier to five minutes; with tilting arrangement, as illustrated, for dropping stakes, lining-up walls, etc. Complete with box and tripod \$60.

Serviceable, Durable. Will hold adjustments.

Instruments from \$15 to \$115.

Leveling Rods, Measuring Tapes.

**Second - Hand Transits  
and Levels.**

First-class condition, perfect adjustment, and bargains at their respective figures



**F. WEBER & COMPANY**

Manufacturers and Importers

PHILADELPHIA

St. Louis, Mo.

Baltimore, Md.

## Foster Superheaters

APPLIED TO BOILERS OF ANY TYPE, OLD OR NEW

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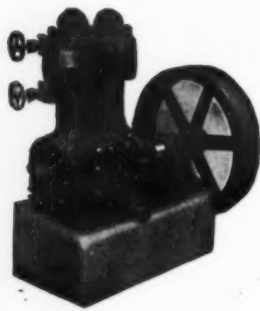
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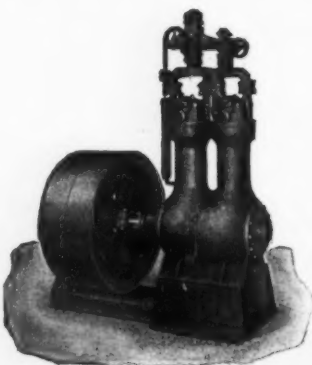
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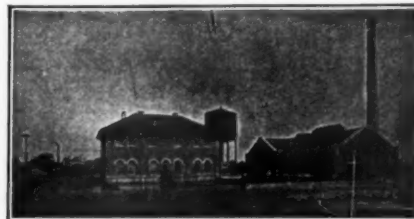
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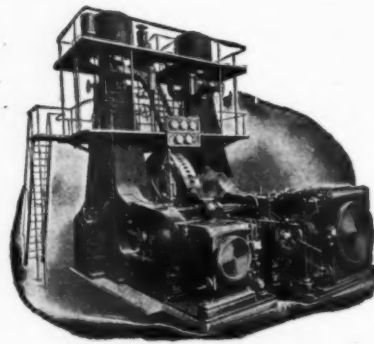
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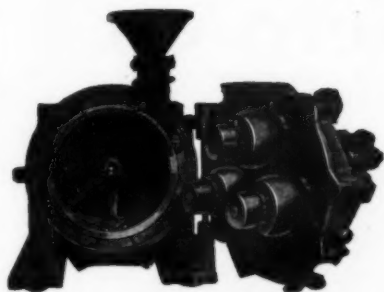
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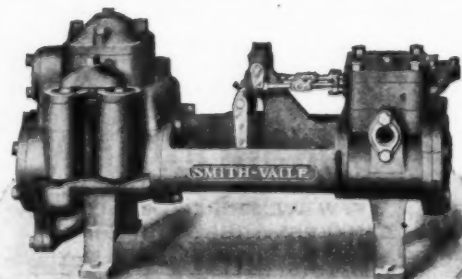
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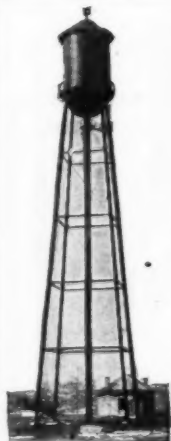
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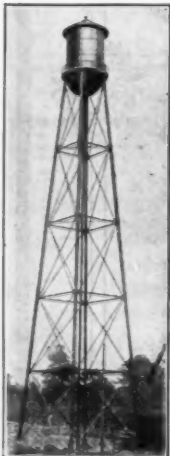
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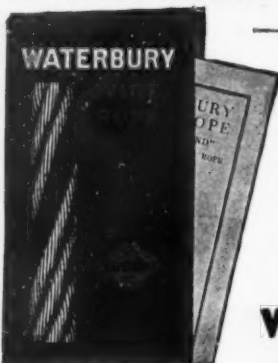
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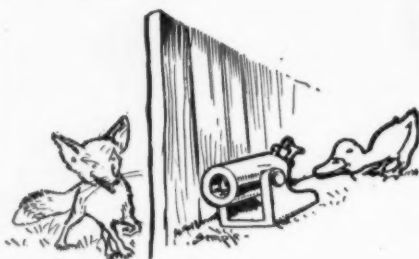
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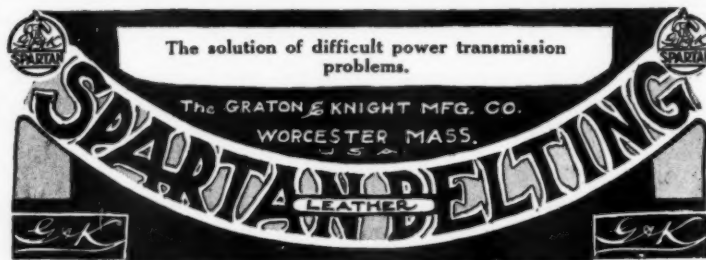
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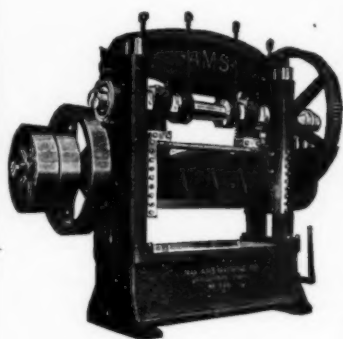
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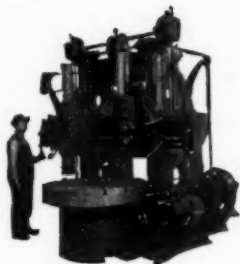
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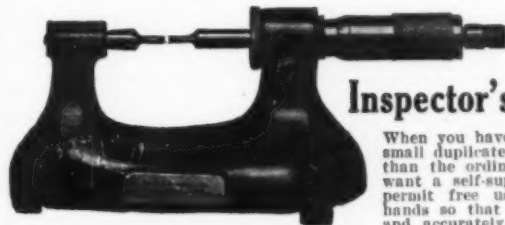
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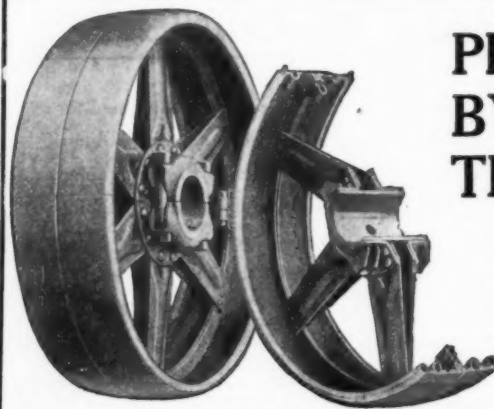
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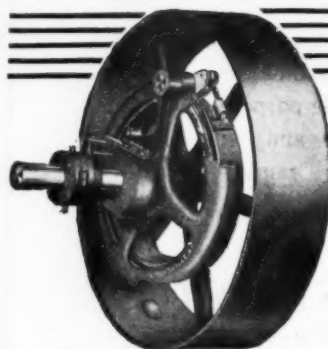
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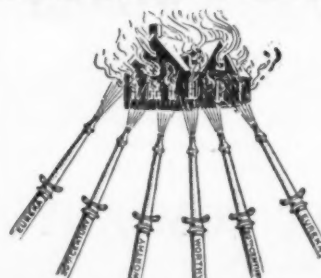
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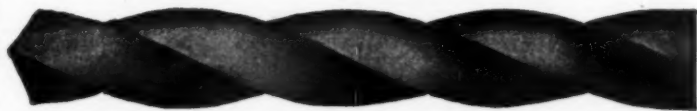
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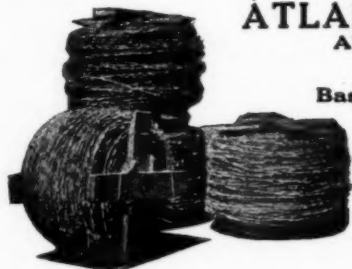
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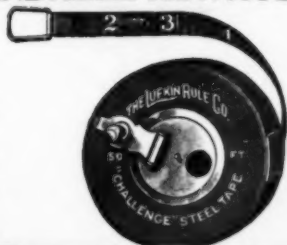
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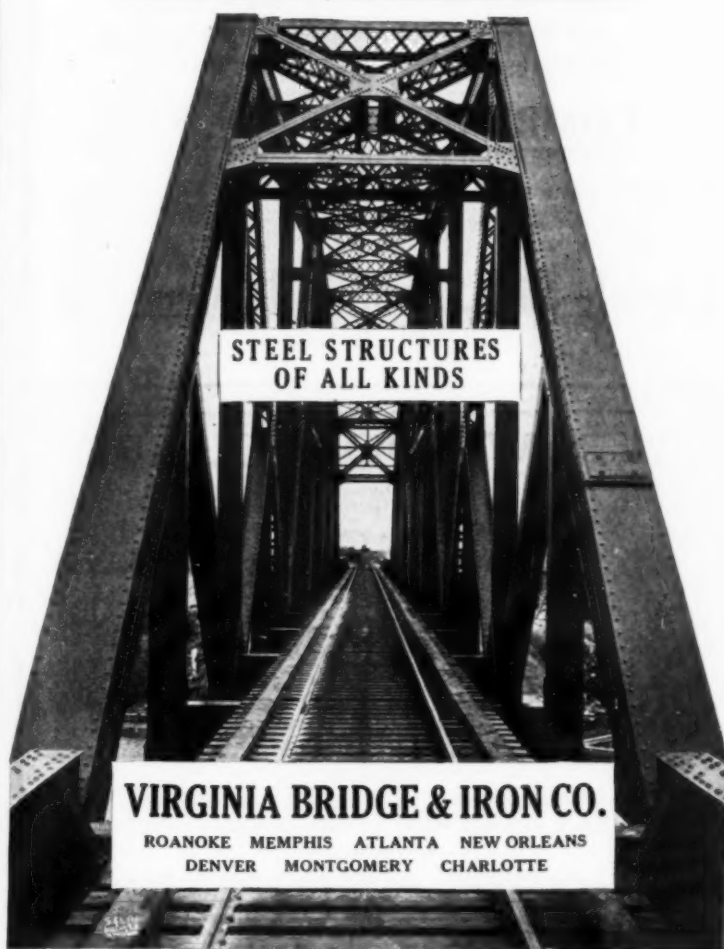
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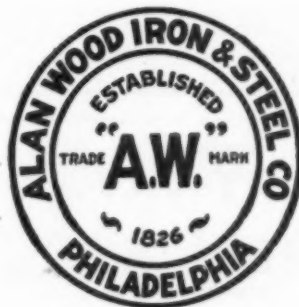
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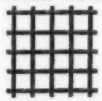
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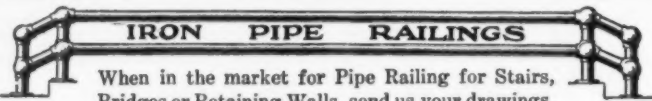
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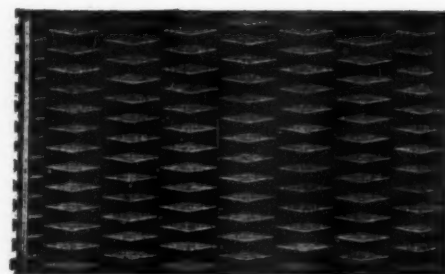
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"Manufacturers of Enameled Brick Exclusively"

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Fireproofing, Fire Clay Flue Lining, Stove Flue Pipe and Tops, Thimbles, Wall Partition Tile, Farm Drain Tile, Fire Brick and Clay, Sewer Pipe, Wall Coping, Silo Blocks, etc.

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Sawn, Planed, Turned and Cut Ready to Set

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Plaster Ornaments, Metal Windows, Doors, Brick, etc. Can save you money.

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consists in a judgment not dazzled by a low purchase price that hides inferior quality with all its stings of disappointment and expense.

When you cover your building with our slate, you are sure of maximum roof service at minimum cost.

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Quality Always Best.  
Rustic Slate— $\frac{1}{4}$ — $\frac{3}{8}$ — $\frac{1}{2}$ — $\frac{3}{4}$ — $\frac{1}{4}$  Inch Thick.

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Cincinnati, Ohio

# May Figures— 29,502 Tons of Keystone



Look for the Keystone added to  
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The call for KEYSTONE quality has moved the monthly production figures up to this new high record for May, 1917. Keystone products have made this record on their merit and superiority.

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## "BERGER'S" Classik STEEL CEILINGS

Will Make Your Interiors  
Attractive and Safe

The Hirschheimer Bros. Co.  
189-199 Market Ave. N.  
Canton, Ohio

April 12th, 1917.

The Berger Manufacturing Co.  
Canton, Ohio.

Gentlemen

When planning the remodeling of our store, after our disastrous fire of some time ago, we decided to make it as safe and attractive as possible.

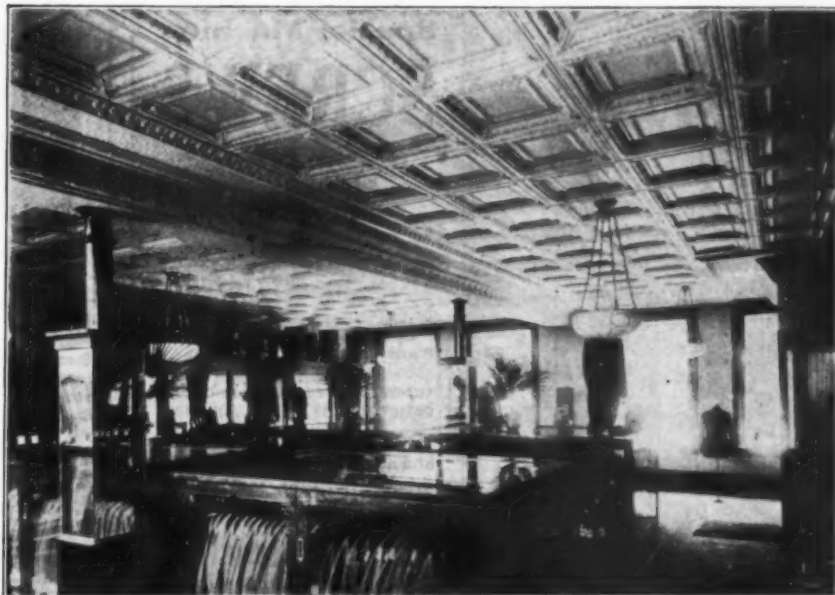
For that reason, we had you install Berger's "Classik" Steel Ceilings. Their effectiveness is far beyond our anticipation. Not only do they lend a distinctive atmosphere to the interior of our store, but we also appreciate their fire-resistant and non-collapsible qualities.

Our new store is one of the most attractive in the city, and your ceilings have materially helped to make it so.

We thank you for your careful attention given us in this installation, and assure you that wherever possible to do so, we will heartily recommend your ceilings.

Yours very truly,

The Hirschheimer Bros. Co.  
M. H. Hirschheimer



COMPLETE SATISFACTION is the result of a "Classik" Steel Ceiling installation. The illustration shows the beautiful effect given by these ceilings to the remodeled Hirschheimer Store—the letter tells what the owner thinks of the installation.

The unequalled variety of "Classik" patterns offer a wide range of treatment. Effects appropriate for all sizes and styles of rooms are provided for.

Besides their beauty, "Classik" Steel Ceilings are fire retardant, non-collapsible, sanitary, easily cleaned, easy to erect and reasonable in cost. Install them in your interiors.

Send for Handsome "Classik" Book D. M. R.

Berger's Metal Shingles meet every requirement of a safe and economical roof. Send for Catalog E.M.R.

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Last a lifetime.

They are fireproof, lightning proof and resist the most severe weather conditions. No repairs needed—an occasional coat of paint will preserve them for years.

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EUROPEAN PLAN, \$1.50 and UP

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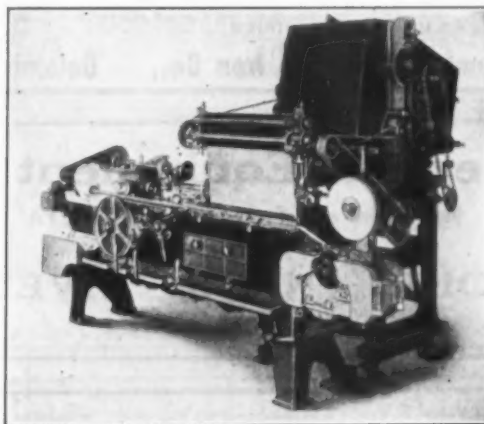
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Chattanooga Paint Co.

Chattanooga, Tenn.

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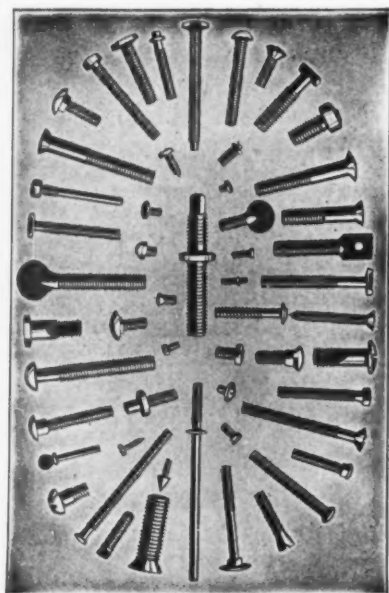
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*We build all kinds of tobacco machinery.*

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Special Screws and Rivets made to order. We please those discriminating manufacturers who require something better than is usually supplied.

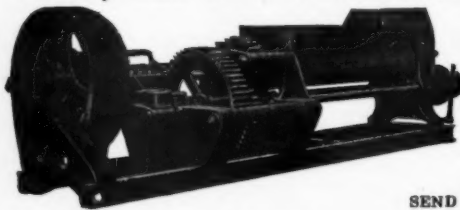
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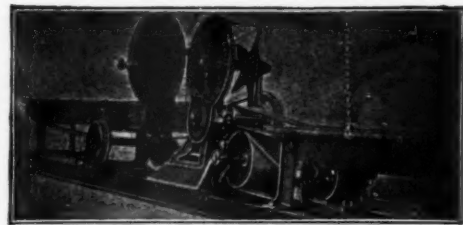
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Annual Capacity 25,000 Tons.

Castings of all descriptions furnished

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## STEEL CASTINGS

FROM 1 to 1000 LBS.

'SALAMANDRINE' STEEL POTS, for Lead, Annealing and Galvanizing  
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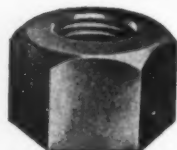
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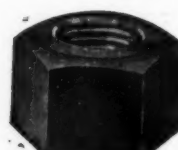
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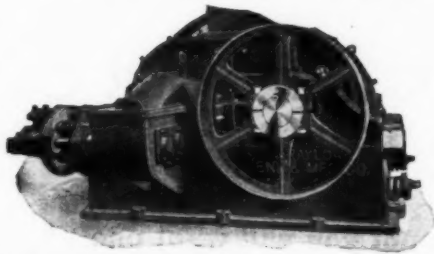
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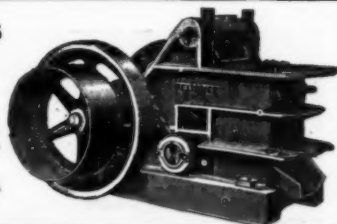
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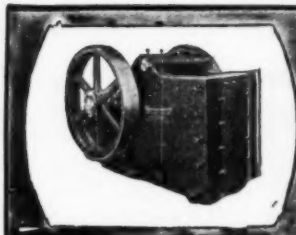


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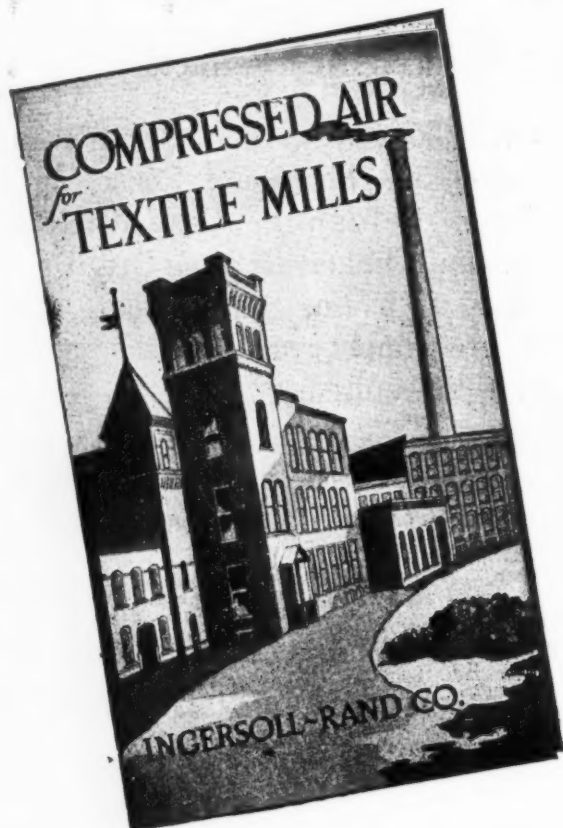
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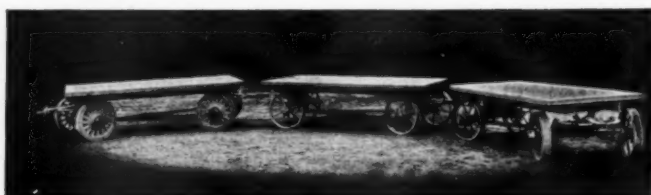


It protects the  
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General Offices: Pittsburgh, Pa.

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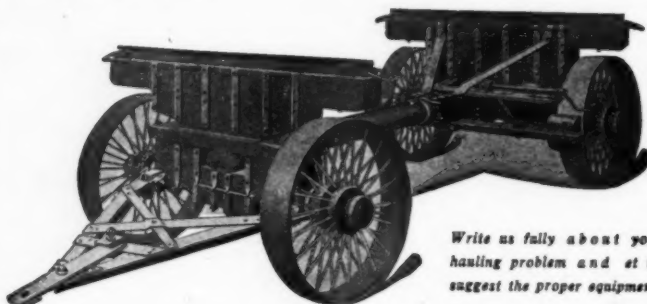
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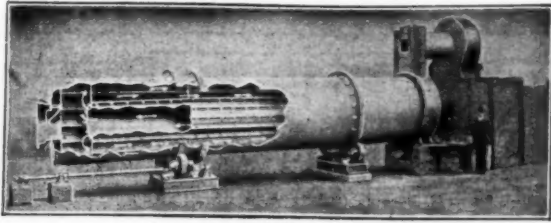


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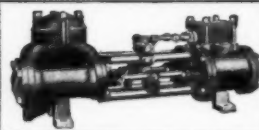
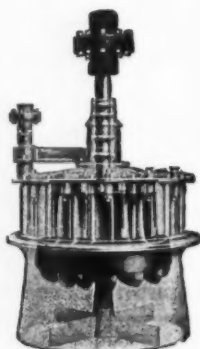
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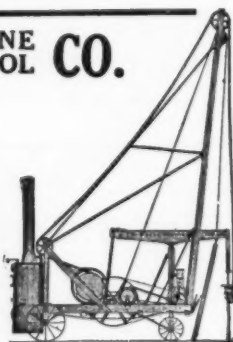
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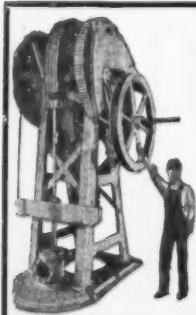
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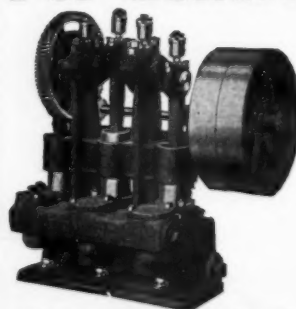


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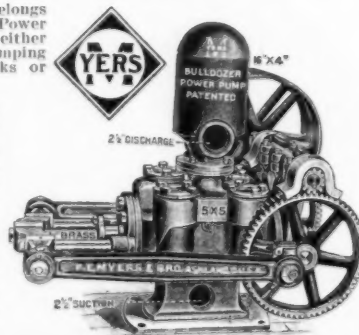
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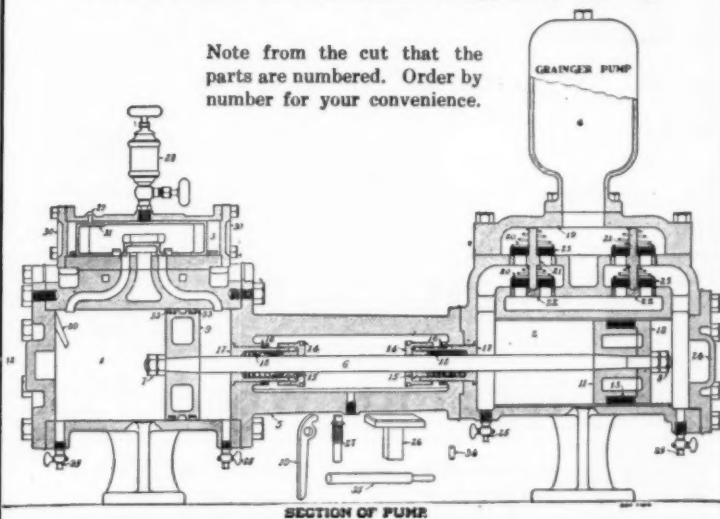


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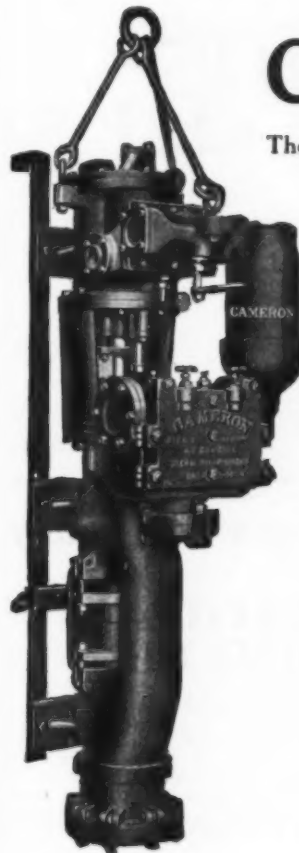
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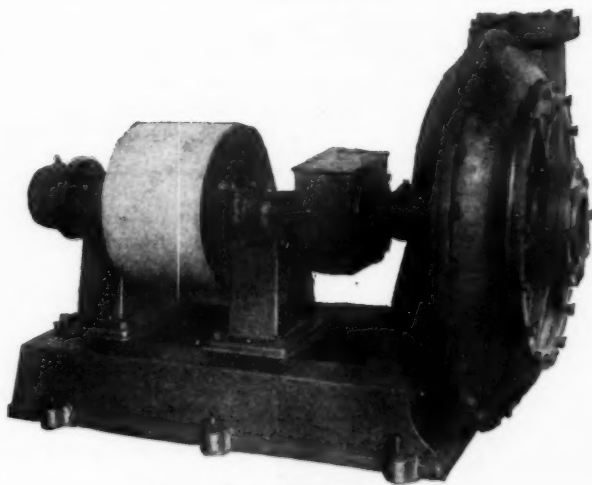
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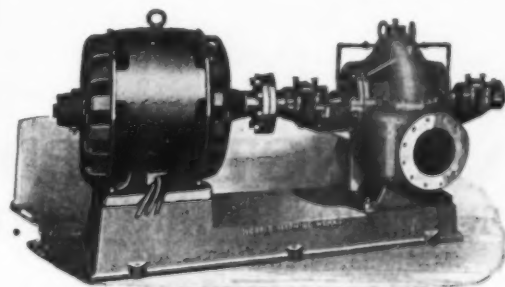
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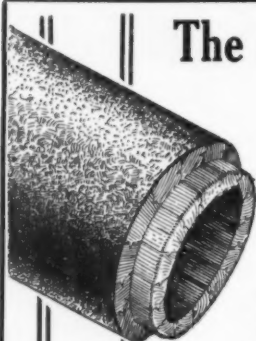
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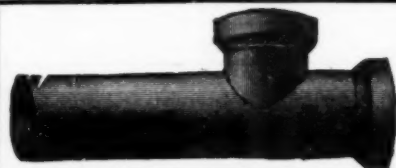


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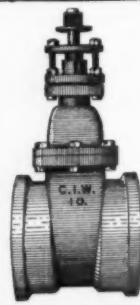
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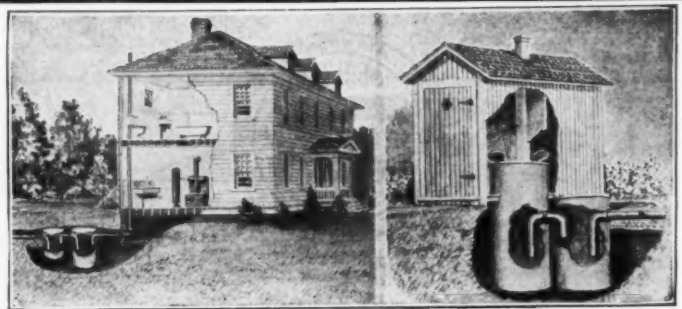
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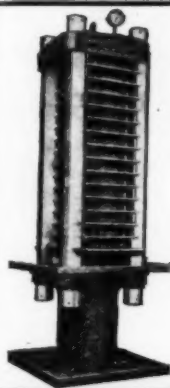
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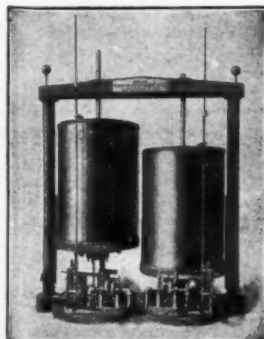


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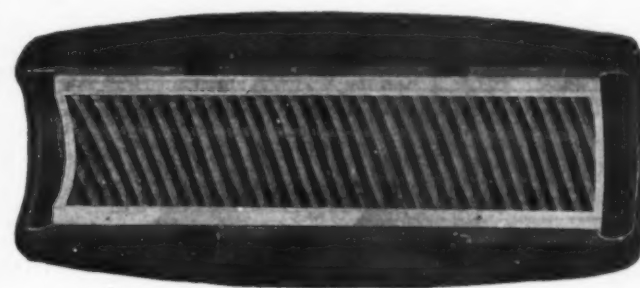
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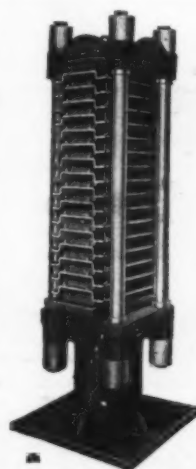
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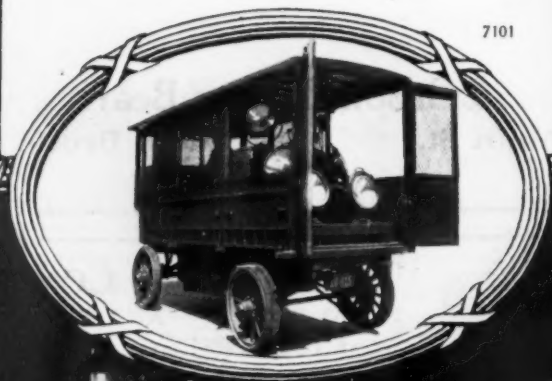
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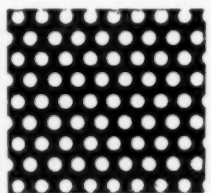
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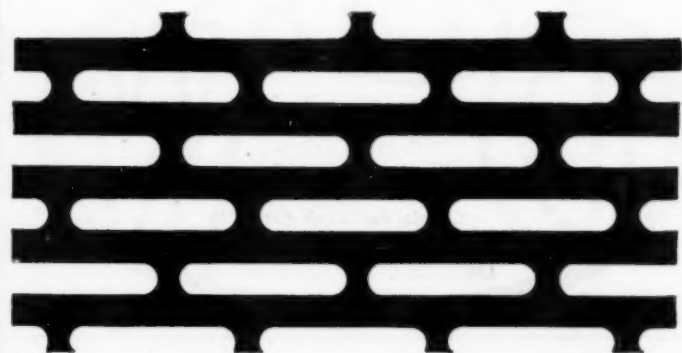


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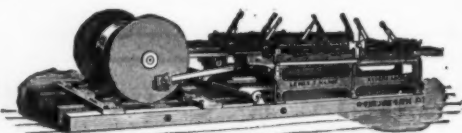
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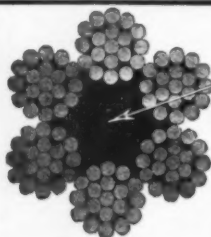
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# MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

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## AND YET THEY TRY TO TAX US TO DEATH!

For Immediate Publication.

W. F. Keohan, Acting Director, Liberty Loan Publicity Bureau.

[Weekly Press Matter No. 6.]

THE Liberty Loan campaign was essentially one of education, and without the generous and patriotic support of the press of the nation the hope of those in charge that it would be a popular loan would not have been realized. The untiring efforts of the newspapers throughout the campaign were a constant inspiration to the various other groups of workers. At a time when news space was at a premium the Liberty Loan was featured at length.

Newspapers and magazines, in their news, editorial and advertising columns, fought for the success of the loan every step of the way.

WILLIAM G. McADOO,

Secretary of the Treasury.

## BIG COTTON MILL DEVELOPMENT IN SOUTH BY MARSHALL FIELD & CO.

THE biggest single movement ever made in the textile industry of the South is the letting of contract by Marshall Field & Co. of Chicago for the building of a cotton mill of four units, to have an aggregate of 300,000 spindles, with looms and other equipment. This contract calls for a structure 340x340 feet for the spinning and weaving department.

Marshall Field & Co., probably the greatest dry goods firm in the world, have for some years been operating very largely in cotton-goods production in North Carolina. They have fully tested out the advantages of this section for making the cotton goods which they distribute through their great Chicago house.

As recently stated in the MANUFACTURERS RECORD, they bought some months ago 2000 acres of land in Virginia, with a view to making it a central point for great cotton-mill activities, and the first step, other than the laying out of the ground and the preparation for building a city for the operatives, is the contract for the gigantic mill which has just been let—the greatest cotton-mill project ever undertaken in the South.

## The Cotton Crisis as Viewed from Different Angles

[Extracts from Editorial in New York Financial America.]

From France a plea comes to America for aid. The cost of cotton there is so great that there is danger the mills will have to close down. To keep the remnant of the textile industry of France alive is of the greatest importance to the French people. In the mills of France today only women and children and crippled men and very old men work. They slave that France may live.

At 27 cents a pound cotton brings \$135 a bale.

In France, owing to high freights, insurance, etc., cotton sells from \$200 to \$250 a bale.

There are hundreds of thousands of men in America who believe that small crops and high prices mean prosperity. There has been much agitation in the South at times for a reduced acreage. To those who hold to those beliefs the present situation, with the exception of the closing of the Liverpool market to speculation, is ideal. Cotton is King. The world is on its knees to King Cotton. The present crop is not sufficient for the world's needs. The growing crop in all probability will be short. The world will have to pay what the South demands. What is woe for others is joy for the cotton planter. He had his days of poverty; now he is having his days of plenty. Keep down the acreage. Keep up the prices. That's the idea.

One hundred and thirty-five dollars a bale for cotton is unreasonable.

There is no more justification for 27-cent cotton than for \$5 wheat.

A few years ago the South was begging all America to help it, to buy a bale that the South might not hunger or go bankrupt. Today the South should hear and heed the cry of France. It should remember, too, that cottonseed is a foodstuff which determines to a degree the price of lard, of bacon, of beef.

Would the South, the South of chivalry and high purpose, fatten on the woes of mankind?

Even if it would, it should be selfish enough to think of its own interests.

If the South will not raise enough cotton for the world's needs and sell it at a price that the world can afford to pay, the world will raise cotton elsewhere in quantity sufficient for its requirements.

If the South insists, the world will get cotton elsewhere than from our southern lands. It will get it from China, from India, from Africa, from South America. It is idle and foolish to scoff.

The South had better look to its cotton fields more and to the cotton market prices less. It had better think more of economies and less of monopoly.

In reply to the foregoing statements of Financial America, a paper which rarely takes such an unfair view of public questions, the MANUFACTURERS RECORD would suggest the following for the thoughtful consideration of that paper and of other critics of the South on the cotton question:

For several years, and especially during the last year or two, bankers and business men in the North and West as well as some in the South, and the National Government through some of its officials have done all in their power to decrease the acreage in cotton.

The South was berated unmercifully for raising cotton instead of turning its cotton fields into grain fields.

The South was warned by the Assistant Secretary of the United States Department of Agriculture that unless it raised all of its own food supply it would not be permitted to receive food from other sections, as the cars necessary to carry food from the West to the South would be denied this section.

That doctrine was proclaimed week after week by Assistant Secretary Carl Vrooman. Others took it up, and even some Southern papers were caught by the folly of such statements and warned the

South to lessen its cotton acreage and raise all of its food supply under the risk of starvation as threatened by Mr. Vrooman.

Had this advice not been given and persistently hammered into the South by Government officials, we would not see the situation which exists today.

Did Financial America, generally so farsighted, warn the South against such false advice?

Did it criticize Secretary Vrooman's activities, and the propaganda which was carried on in the East and West against a large acreage in cotton, and did it try to set right the vicious papers which denounced the South because it raised cotton instead of raising all grain?

Did it commend the movement, or simply sit by in idle neutrality?

The South decreased its cotton acreage at the command of the United States Department of Agriculture, for it was told over and over again that it would be permitted to starve if it did not raise all of its own food supplies. And now, when the South has heeded this command, and the world is beginning to realize that there is an actual cotton famine, this section is denounced even more vigorously than it was denounced for not raising foodstuffs, and is held up to the world as though it were a money-grasping, humanity-hating region, bent only on getting the last possible pound of flesh in the shape of dollars out of its cotton.

Such a criticism of the South is nothing less than disgraceful to the men and the papers which put it forth; and we are sorry that so good a paper as Financial America has fallen from its high estate in this particular.

Cotton at 27 cents is not, however, as Financial America says, on a basis of wheat at \$5. There has been no time within the last ten or fifteen years when cotton should not have commanded from 14 cents to 15 cents a pound in order to give a fair margin of profit to the growers.

Has Financial America berated the West because it did not largely increase its wheat acreage, when wheat means the salvation or the starvation of the Allies?

Has Financial America berated the iron and steel people who are selling to France and to England, and to their customers in this country, pig-iron on the basis of \$50 to \$55 a ton, and steel accordingly, when two years ago the same iron was selling at \$14.50 to \$15 a ton?

Has Financial America demanded that the iron and steel people shall "hear and heed the cry of France" for cheap iron and steel?

Has Financial America suggested that industries as rich as the steel-makers should have the "chivalry not to fatten" on the woes of mankind?

We have seen nothing to that effect.

Is Financial America charging these interests with "selfishness" because they are selling iron and steel on the basis of supply and demand, and in accord-

ance with the prices bid for their products—a strictly economic business proposition?

If it has not done so, why should it turn its batteries upon the South and accuse this section of "selfishness"?

Will Financial America note the facts that the South has been struggling for years to induce the country to recognize the value of cottonseed as a foodstuff, and that Congress persistently keeps the country from using a product of cottonseed oil except by the payment of a heavy tax put on it for the express purpose of preventing it from competing with butter at a lower cost to the consumers?

Is Financial America aware of the fact that a committee made up of representative men from all parts of the South recently visited Washington in the interest of the enlarged use of vegetable oils as food in this time of need, in order to supplement the supply of fats for the country, and that when this committee called upon the officials of the Department of Agriculture and pointed out that in the various forms of food advice and menus issued by the Department margarin, the product largely of cottonseed, has never been mentioned, notwithstanding the fact that it is the only food produced exclusively under the supervision of the Department, that the astounding statement was made by the officials of the Agricultural Department—

"It is against the policy of the Department to mention this food in its food advice"—

though this is the only food in the country produced exclusively under the supervision of the United States Department of Agriculture?

Is Financial America aware of the fact that when a Southern Congressman lately asked the United States Treasury Department if agricultural colleges in the South would be permitted to teach the science and art of churning vegetable oils in milk in order to increase the supply of butter fats for the benefit of the public he was told that if the colleges could teach this science without churning any vegetable oils in milk and disposing of the product, it was the opinion of the Department that it might be done, but that the colleges would not be permitted to use any products so produced, and the Department advised against any such teaching, because if any person should happen to churn vegetable oils in milk and either sell the product or use it in their own home where boarders were fed, such person would be guilty of a violation of the law and subject to heavy penalties?

In the light of these facts, will Financial America do justice to the South, for it has generally been most fair to this section?

Will it point out to its readers that the South is not as much to blame for decreased cotton acreage as the West is to blame for a decreased wheat acreage?

Will it admit that Providence is responsible for the weather, which has made the crop conditions so low, or will it charge the South with being responsible for the weather?

Will Financial America emphasize the fact that Government officials persistently urged the South to decrease its cotton acreage, and that bankers and others gave the same advice?

Will it emphasize the fact that the Government has persistently fought the utilization of cottonseed oil by putting a tax on margarin produced from it, in order that the butter-makers of the West might be able to hold up the price of creamery butter in their own interests and against the welfare of the consumers?

Before Financial America charges the South with lack of "chivalry," with unreadiness to meet the world's cry for cotton, will it criticize with equal

vigor the wheat growers of the West, the iron and steel and coal people of the country, the National Government for its ill-advised activities against larger cotton acreage, and likewise for its activities in suppressing the use of cottonseed oil to the utmost extent of its ability by trying to tax margarin out of existence?

Will Financial America, instead of accusing the South of "selfishness" and lack of "chivalry" because cotton buyers, recognizing the economic situation in regard to cotton, and knowing that the demand exceeds the supply, with a prospect of a short crop ahead, bid high for cotton, take the ground that this section must, purely out of philanthropy, sell cotton below the market value and below the prices bid by consumers?

And if Financial America does that, will it demand that the iron people shall cut the price of iron from \$50 and \$55 a ton to \$20 or \$25?

Will it demand that the coal people shall reduce the price of coal to prices existing prior to the war?

Will it demand that the steel men shall sell steel at ante-war prices, regardless of the fact that for every ton they make there is an eager scramble at constantly rising figures, and that Japan, for instance, is bidding for American steel at far higher prices than the prices at which steel-makers are delivering their product to American consumers? Steel and iron and coal are too high, as are many other things, but cotton should not be singled out for attack and the South denounced while others go scott free of criticism.

"The South had better look to its cotton fields

"The South had better look to its cotton fields more and to the cotton market prices less; it had better think more of economies and less of monopoly"—

is a piece of advice entirely out of place and not becoming to such a paper as Financial America. It is on a par with the impertinent advice so often given by Mr. Carl Vrooman, Assistant Secretary of the Department of Agriculture, and those who for years have undertaken to tell the South what it must do and how it must do it in cotton-raising, without any knowledge whatever of the South's conditions or of the situation in regard to cotton.

#### THE LOAFER RICH AND POOR SHOULD BE FORCED TO WORK.

REFERRING to the bill in the Maryland Legislature by which all men under fifty years of age would be compelled to work, Governor Harrington, when asked in regard to the matter, stated that the bill, if passed, would give him power to go into one of the clubs (naming the richest and most exclusive in the city) and compel every member who was not engaged in active work to go to work, regardless of the amount of his wealth.

This is a radical doctrine, but from the beginning of the war it is what the MANUFACTURERS RECORD has been preaching. No man has a right to loaf at present, whether his income be amply sufficient for all of his needs, or whether, indeed, it run far beyond his needs. It is not a question of his wealth, but a question of his mental or physical ability to work.

Every resource of this nation must be utilized, and those who are not from one reason or another to become soldiers must do their utmost to produce the things which are needed to enable us to carry on this war. The man who is a slacker merely because he has wealth enough for his needs is more dishonest than the slacker who seeks to escape from service in the army merely because of cowardice.

If we are to send millions of men to the battle front, the nation has a right to see that every man who is not in the army is doing his full measure of work in making possible the maintenance of the army, and we commend Governor Harrington's statement on the subject. May every other State in the Union follow in this good work.

#### WORK FOR HIGHWAYS AND OTHER THINGS WHICH SHOULD RECEIVE RAILROAD CO-OPERATION.

AT a meeting of representative men identified with highway improvement, recently held in New York, some statements were made with regard to the necessity of improved highways which are directly in line with what the MANUFACTURERS RECORD has been preaching.

At this meeting the following resolutions were adopted:

Whereas, the great increase in cost of building and maintaining roads and streets makes it necessary now to bring home to the public, and to the representatives of the public, on whom devolves the road and street work of the country, the value of the country's highways, both for commercial and for military purposes; therefore, be it

Resolved, That it is the sense of this meeting that the highway departments of the several States should co-operate with the War Department of the United States in determining the highways of each State that are important from a military standpoint, and also the requirements which such highways should meet; and be it further

Resolved, That it is the sense of this meeting that each State highway department should at once prepare a report on the highways in the State that are essential for the transportation of agricultural and industrial products; and be it further

Resolved, That it is the sense of this meeting that the Governor of each State should file with the proper committee of the Advisory Council on National Defense, or with any body that may succeed to the powers and duties now vested in the said Council, a memorial requesting that the railroads be not permitted to place an embargo upon the transportation of materials, machinery or equipment for use in the construction of roads of military value or required for the transportation of foodstuffs and other necessities, but that this class of freight be put on the preferred list.

That highways must be improved in order to meet the war situation and lessen the cost of transportation between the farm and the factory and the consumer, and in order to supplement railroad transportation, which has broken down so badly, good highways are essential, and they must be built as a necessity. There never was a time in the history of the country when it was more important that highways should be built, and that the materials which enter into highway construction should be regarded by the Government and the railroads as favored freight requiring as quick delivery as other products which go into iron and steel and kindred interests.

There are many lines of business, especially such as pertain to luxuries pure and simple, where there must be a complete change. Many things must be cut out of freight traffic and of production in order to save transportation and men and money for essential things. Some of these essential things are highway improvements, water-works and sewerage systems, drainage of wet lands and kindred works which make for increased transportation, for the health of the people and for enlarged crops. The Government would make a serious mistake if it should in any way encourage the railroads not to give quick transportation to all materials for highway construction and other work mentioned.

#### MORE SHEEP CAN ONLY COME THROUGH FEWER DOGS.

MR. WILSON, Secretary of Agriculture of Louisiana, is making a strong fight to induce the State Legislature to eliminate the worthless curs which now roam the State and make sheep raising impossible. The Baton Rouge State Times, in commenting on this, says:

We are rather in sympathy with the recommendation of Harry Wilson, Commissioner of Agriculture and Immigration, to the Governor, that he include in his call for an extra session authority for the General Assembly to deal with the stray-dog subject. Mr. Wilson is right. Louisiana can't have worthless curs and valuable sheep. The two don't go together in the same neighborhood. If Louisiana wants stray dogs roaming over the land, seeking what they can devour, then Louisiana can't have sheep that provide wealth through their wool and mutton. The State should give up the cur and take the sheep. A law to prohibit stray dogs looks like a rather trivial subject for a legislature, sitting in special session, to take up, but there is nothing more important than the development in Louisiana of the sheep industry, and the passage of the law Mr. Wilson seeks is the initial step. Until the prohibition he advocates against dogs is set up, there can be no development of the sheep industry.



## MORE STEEL AND MORE SHIPS NEEDED.

New York, N. Y., June 22.  
Editor Manufacturers Record,  
Baltimore, Md.:

I am in entire accord with your recommendation to build wooden ships, for ocean transportation is the all-important matter.

Every ship that can be built of wood should be in the water at the earliest possible moment.

Build ships of steel as well, but give preference to wooden vessels, as all the steel the world can produce is urgently required for purposes that will allow no substitution.

There is an actual scarcity of steel-making materials and equipment, whereas there is an unlimited supply of wood.

WILLIAM E. COREY,  
President Midvale Steel & Ordnance Co.

In this dispatch to the MANUFACTURERS RECORD President Corey states facts which should be known to the entire country. From another leading steel maker, president of one of the big concerns of the country, we are in receipt of a letter in which some amazement is expressed that anyone should for a moment have imagined that the steel makers of the country were anxious to see steel ships built in order to sell steel for shipbuilding, since the demand for steel is already in advance of the supply. This gentleman was wholly ignorant of the fact that the public at large, from the day after General Goethals made his speech at the banquet of the American Iron and Steel Institute, believed that the steel people of the country had been instrumental in having General Goethals come out in favor of steel for shipbuilding. Since then the public has been charging the steel men with a selfish desire to advance their own interests.

How any well-informed steel man has not known this public sentiment nor understood the current comment of the day against the steel people in regard to this matter we cannot understand. This, however, is only another illustration of the fact that the great business leaders of the country are often wholly ignorant of public sentiment in regard to big business, or the causes which create the sentiment. Men accustomed, as the steel men of the country are, to doing big things, and in this case doing them from unselfish motives and with a desire to aid the country and civilization, do not seem to have understood the inappropriateness of General Goethals' ridiculing wooden ships and calling for steel ships at a meeting of iron and steel men. A greater tactical blunder we have never seen committed by any leading man, nor by any great business organization in failing to speak immediately on the other side of the case. Had some one of the great steel men at that dinner followed General Goethals' address by one to the effect that, while the steel people were willing to do their utmost to aid the Government in providing ships, it was fully recognized that this must be done at a sacrifice, since the demand already in existence exceeded our producing capacity, and that wooden ships should be built to the limit of our abilities, the whole thought of the country would have been changed, and the antagonism which was aroused to the steel people and to General Goethals by his ill-advised talk and by the failure of the steel men themselves to answer it would have been avoided.

The country did not know that the demand for steel already far exceeded the possible producing capacity. The country did not know that the supply of materials for steel production was, as so clearly stated by Mr. Corey, inadequate to meet the demands of the times; and the country naturally interpreted a speech made at a gathering of the steel men of the country by General Goethals in favor of steel ships as having in some way been due to the effort of the steel men to interest General Goethals in a plan for selling more steel.

The MANUFACTURERS RECORD has known that this was an unjust position. It has fully known that the supply of steel has been less than the demand. It has foreseen this for the last two years, and during that time it has persistently urged the Steel Corporation and other steel interests to enlarge their capacity in order to meet the present needs, but the

vast mass of our population did not know these facts.

We are glad to have Mr. Corey's telegram. It should do good as showing how one of the foremost steel makers of the country recognizes the supreme importance of ships of wood as well as of ships of steel. It is well, moreover, that Mr. Corey has so clearly stated that the demand for steel far exceeds the producing capacity of the country, and that there is an actual scarcity of steel-making materials and equipment. This being true, as every man connected with the steel industry fully knows, it behooves these steel men to go into the South and Southwest and develop iron and steel interests on a large scale, notwithstanding the difficulty of securing new machinery and of finding the labor. We must, without regard to cost or strain on machinery and labor, increase the output of iron and steel in this country. It is almost impossible for this to be done by any increased output of the Lake Superior district. There will be less Lake Superior ore available this year than was used last year. Shipping facilities as well as mining facilities and the late season for the breaking up of the ice have lessened the supply. There is no possible way of meeting this situation except by larger developments in the South and Southwest.

The Steel Corporation has made a move in that direction by authorizing the expenditure of \$11,000,000 for the enlargement of the operations of the Tennessee Coal, Iron & Railroad Co. in Alabama. This amount, however, must be greatly increased, and other steel companies must move into the South or Southwest with their money and their power, or else they will fail to meet the responsibilities of the hour.

This demand for iron and steel must and will be met; otherwise civilization would be doomed, and our own country would be headed for destruction. It cannot be met except through development, as rapidly as men and money make possible, of the iron and steel-making potentialities of the whole nation. All the great leaders in the iron and steel interests and the capitalists of the country should recognize that here is a specific responsibility which they owe to their own stockholders, to this country and to the world, and the South and Southwest offer them the opportunity to help meet the situation.

## SECOND-HAND EQUIPMENT AND SCRAP MATERIAL SHOULD BE UTILIZED.

FROM every part of the country there is coming a demand for machinery and equipment of all kinds, and so eager are the buyers that in many cases they are advertising widely for second-hand material. Never in our experience has there been such a call for second-hand equipment as at present.

This is due to the fact that a vast amount of work must be done, and done rapidly, in these war times, and that new machinery is not available for all purposes.

In view of the tremendous demand upon the iron and steel output of the country and upon every machine shop, it would seem to be the part of wisdom for every concern in the country which has any second-hand equipment of any kind not needed, to put it on the market, for it may help other concerns to take care of contracts which they are trying to handle.

Throughout the country there is in the aggregate an enormous amount of old machinery, scrap-iron and steel, such as old boilers and engines, out-of-date automobiles, cotton gins and other stuff, which, if it could be got to market, would be a great help in this time of emergency. Some of this material may be so far away from railroads as to make the cost of hauling it and shipping it fully equal to the price, but even that should not deter the people from trying to get it into the market, for every ton of old iron material that can be saved is to that extent a help in meeting the demand for iron products of all kinds.

Our advertising pages indicate the active demand for second-hand equipment, and also show how manufacturers and contractors having unneeded stuff on hand are using this opportunity to market it.

## CONTINUED STEEL EXPANSION IN SOUTH A NECESSITY.

NOW that the Steel Corporation has voted for an expenditure of \$11,000,000 for the enlargement of the operations of its subsidiary, the Tennessee Coal, Iron & Railroad Co. of Alabama, and that Mr. Henry C. Frick, one of the great steel leaders of the country who had never before visited the Alabama district has made the prediction in a letter to the MANUFACTURERS RECORD that "the Birmingham district is destined to be one of the greatest steel centers in the world," we believe that it may safely be counted upon that the Steel Corporation will extend its operations far beyond the present \$11,000,000 appropriation. This is doubtless all that the company can at the moment wisely use for extension of existing plants or the building of new plants to fit in with the scheme of development; but so vast is the quantity of ore and of coal owned by the company in Alabama that no one for a moment could imagine that the present extension is more than a preliminary move looking to the larger utilization of these vast supplies held as a trustee for the nation—now, indeed, as a trustee for civilization itself.

There is no other property of such vast potentialities with ore and coal in such close proximity as that of the Tennessee Company. This is, indeed, the largest single property where the ore and the coal are so close together, owned by any one concern, in the world; and there is resting upon those who direct the Steel Corporation the tremendous responsibility of using this situation to the utmost limit of the power of men and money in order to increase the output of steel to meet the world's incessant and tremendous demands.

It is especially gratifying that Mr. Frick, who though a member of the Executive Committee of the Steel Corporation had never visited this property, has now, by personal investigation, become so impressed with its advantages that he was willing to put himself on record as forecasting the Birmingham district's becoming one of the world's greatest steel centers.

While it is true that other Alabama companies will of necessity sooner or later go largely into the steel industry, Mr. Frick's prediction cannot attain its fullest realization except through constant enlargement of operations by the Steel Corporation, for that company owns in Alabama an amount of coal and ore which, as the plant is rounded out, will justify an expenditure not merely of the \$43,000,000 which will be represented when this \$11,000,000 has been spent, nor even by \$100,000,000, but by double that amount, for there is no other place where these raw materials can be brought together out of one great property to such advantage as in this district.

Through the development of these properties it will become feasible to establish shipbuilding yards on the South Atlantic and Gulf coast in order to meet the world's call for shipping to save ourselves from destruction and our Allies from starvation. But with the certainty that there will be a scarcity of shipping for many years after the war has ended, there is afforded the foundation in this situation for the permanent creation of great shipbuilding plants in the South through the operations of the Steel Corporation.

There is also the opportunity in Alabama for the manufacture of many lines of finished steel which will be needed not only for the export trade as we undertake to rebuild all of Europe, but which will be needed for the expansion of activities in this country and in South America.

George Gordon Crawford, in holding the presidency of the Tennessee Coal, Iron & Railroad Co., holds a position of responsibility probably not equaled by that of any other officer in any other subsidiary of the Steel Corporation; indeed, upon the vigor with which he presses construction work and makes certain the doubling and the trebling and the quadrupling of the amount which has lately been appropriated for expansion will depend his aid in saving our country and the world.

## Today's War of Autocracy Against Democracy, with England and the United States Inevitably Allied for Defense, Marvelously Outlined 65 Years Ago

The great conflict for the survival of human liberty in which the United States has been compelled to participate by the course of the German Emperor and his followers was foreshadowed and predicted sixty-five years ago by Henry Winter Davis of Maryland in his brilliant, patriotic work, "The War of Ormuzd and Ahriman." This title borrows from the Zoroastrian religion the names of the good principle and the bad principle in humanity, respectively Ormuzd and Ahriman, and applies them to democracy and autocracy in similar order. This notable work, which is well known to publicists, also reveals the basic reasons for the intense hatred manifested by Germany against England in the fact that England is a free nation and therefore represents the principles of democracy to which the German ideas of government, as now expressed through the "Kaiserthum," are inherently in vigorous opposition. Furthermore, it exposes conclusively and disposes of the erroneous belief that Washington opposed any alliance whatever with European powers, an error that persists to this day among many of our people, and in this work Mr. Davis also strongly urged the sending of American troops to Europe in behalf of freedom.

Mr. Davis' work was published in Baltimore in 1852, and he saw in the condition prevailing in Europe after the unsuccessful revolutionary movements of 1848 a grave menace to free institutions in America. Russia was the great power then overshadowing the world, for Germany was not then united, and it was from Russia that he evidently expected a movement of aggression toward the United States, especially for the reason that Russia already had set foot on the American continent by her possession of what is now Alaska, but which was then Russian America. Russia was the leader against freedom. Poland and Hungary, independent kingdoms, had been overthrown, and Louis Napoleon, the usurper, was settling himself upon the throne of France, of which he was to be Emperor, although calling himself for the time being Prince-President, a curious designation, to be sure.

To combat the influence of autocracy's growth in Europe, Mr. Davis advised the opening of diplomatic negotiations with Great Britain to preserve freedom for the world. He argues thus:

"That this power' (autocracy) 'must from necessity, on principle, and by inclination, be devoted to the ruin of all free governments; that it is absolutely inconsistent with the existence of the English monarchy and the American Republic as free popular representative governments, and that they will be compelled, sooner or later, to defend by force of arms their freedom and independence against the intrigues, the diplomacy, the legislation, the hostilities of the despotic powers of Europe.

"That it is, therefore, the part of wisdom to be prepared for the advent of the inevitable day, and ready to seize the first favorable conjuncture to strike in common the first blow, and so to strike that it may be the last.

"That such a course is the dictate of sound policy—the policy followed by our foes and the cause of their present triumph.

"That this is the policy of President Washington—illustrated by his conduct and consecrated by his parting address—adopted by President Monroe—reaffirmed by President Adams—reiterated by President Polk—the traditional policy and the only safe policy of this Republic.

"That the question we have to decide is—not whether we will live in peace and repose, or gratuitously go on a crusade for liberty throughout the world, but—the absolute certainty of a contest with the combined powers of despotism being apparent—shall we wait till those powers, having utterly rooted out free governments from Europe, shall turn their might for our destruction, alone and without allies;—or shall we now seize the first opportunity of a decisive outbreak in Europe to aid the cause of freedom with arms and money, fight our battle by the armies of European revolutionists on the field of Europe, and by the aid of our allies forever settle the question between freedom and despotism.

**"THE ONLY ALTERNATIVES ARE WAR, IN EUROPE NOW, WITH ALLIES—AND WAR HEREAFTER, ON OUR OWN SOIL, WITHOUT ALLIES.—"**

How appropriate are these words to the conditions confronting the United States when less than three months ago we decided to help fight the battle of Liberty in Europe in order to save ourselves from being overrun at home and wrecked as Belgium has been by the fearful work of the autocracy of Germany. Throughout the entire quotation we are reminded of conditions of the present war; it might almost have been written yesterday instead of more than half a century ago.

The hatred of Germany for England is well accounted for in the following:

**"So long as England exists resplendent in all the glories of liberty, despotism can find no safe and quiet abode on the continent of Europe. In form a monarchy—her crown is the shadow of a departed power—so thin that the stars which lead the coming day shine through it—yet paling before a more effulgent light. Her aristocracy—once the strength, now little more than the ornament of the throne—has deeper roots and more inherent power. It is of sturdy growth and might deliver serious battle for its existence; but before the real power of the state it is—nothing. A breath—and it is gone. But behind and beneath all, the foundation and the wall of that glorious fortress 'formed to freedom's hands,' stand the great mass of the people of England, her indomitable and heroic yeomanry—the democracy militant—in fact though not in form the governing power of the country. Their free ideas, their bold spirit of independence, their sturdy hatred of tyranny, their deep sympathy for the oppressed, will ever speak in trumpet tones—enough to wake the dead beneath the pall of despotism, and sound the advent of the judgment day. The miracles of their art and industry, the ceaseless activity of their enterprise, the smile of happiness that shines over their land—all perpetually personify and proclaim the blessings of liberty. No nation is so distant that they cannot see this light in the sky—none so dull that they cannot confess the majesty of this example—none so besotted as not to feel the waking longing after its nameless, endless, priceless blessings. Vain while it exists are custom-house barriers—paper blockades—literary censorship—inevitable exclusions—laws of non-intercourse. They might as well decree eternal night, and veil the sun at his going forth—as leave the giant of English liberty unbound—and forbid him to run his course. They must smite him, or—he will smite them.**

"That the will exists, who so simple as to doubt—if only it may be safely and successfully done. They who have laid liberty low on the continent feel and know that the busy hum of English liberty is ever exciting their oppressed subjects to rise, and that the plain-spoken words of indignation at their doings are holding them up to the hatred and contempt of their people. Their war is against liberty as incompatible with despotism; and what so dangerous as the example and power of free England! Her freedom is not older than that of Hungary—but infinitely more dangerous. Her example is more contagious than that of Spain—for her liberty imbrued its hands in the blood of her kings, and they who now rule over her are there by the choice of the people. With her boisterous and turbulent sons, fierce in tongue and resolute in act—tenacious of legal rights and defiant of official encroachments—irreverent towards foreign royalty and not very respectful of that at home—jealous of absolute freedom of speech, and proud to signalize it in the High Court of Parliament by language that from no other quarter of Europe rings so loudly in the ears of princes—how can she be left to stand, if she may be stricken down. She stands in the direct line of precedents—she is guilty of every liberal sin—bristles with every danger that terrifies ambitious despotism. It were scarcely worth the while to stain the



hand with Spanish, or German, or Hungarian blood, if England may live, and breathe the words of freedom.

"How and when the assault may be made is—for the prophet or the historian. I claim to be neither. I use the facts of the past to calculate the dangers of the future—for the guidance of the men of this day. It is enough to shew the will, the existence of a deeply seated plan of policy—hitherto pursued consistently, resolutely and unfalteringly—but never rashly or hastily—guiding the power of the mightiest of military monarchies of Europe—and that England stands in the way of that policy, is its chief, it may be its only obstacle to entire success,—for statesmen to foresee and provide against the collision which time must develop."

Again the author says:

**"England must either be the accomplice, the victim or the conqueror of the allied despots.**

**"Across the Atlantic there is another people allied in blood, in institutions, and in character, which must share the fate of England. That power is more dangerous, more hateful and more hostile to the coalition of the foes of freedom. Is it the Rome of the modern world?"**

"It is, then, the part of wisdom and foresight for the free nations of the world—the only two whose towers still lift themselves above the flood—to see and provide against these threatening calamities now, while they are yet at a distance and allies are left, rather than to meet them singly after a few years of treacherous peace bearing all the fruits of the most disastrous war."

**"I maintain it to be the dictate of high policy, whenever the battle shall be joined in earnest in that final conflict between freedom and despotism, which is unavoidable and may not be remote, to display the banner of the Republic in the cause of the rights of nations and of man, for our own defense.**

"A wise precaution spontaneously suggests the opening of diplomatic conferences with England, that two free nations of the world may face together their common foe in that day of trial."

**"If, therefore, it be possible so to aid the cause of European freedom that it may be crowned with success and grasp the sceptre of rule—it is the plainest dictate of sound policy, quite level to the comprehension of common sense, to let no opportunity slip, effectually, earnestly, boldly, at whatever expenses of men or money, to secure its triumph as the best and only safe defense of our security. Though the stars and stripes float on a thousand fields of Europe, we shall incur no more hate, no more danger, no greater certainty of that 'tremendous combination,' than now hang over us as the inevitable consequence of the final triumph of despotism in Europe. The policy of indifference is the only fatal one; the leaving our own to stand on foreign ground is merely meeting the invader at his own threshold—and it is our only safety."**

Mr. Davis then refers to the error concerning George Washington's attitude toward foreign alliances, the popular mistake being in supposing that he protested against such associations. The author quotes from Washington's farewell address, which in itself effectually refutes the error, as follows:

"It is our true policy to steer clear of *permanent alliances* with any portion of the foreign world, *so far I mean as we are at liberty to do it*; for let me not be understood as capable of patronizing infidelity to existing engagements. I hold the maxim no less applicable to public than to private affairs that honesty is the best policy. I repeat, therefore, let those engagements be observed in their genuine sense. But in my opinion it is unnecessary and would be unwise to extend them.

"Taking care always to keep ourselves by equitable establishments on a respectable defensive posture, *we may safely trust to temporary alliances for extraordinary emergencies.*"

Thus spoke the Father of His Country upon his retirement from public life.

Foreseeing the awfulness of the struggle which was to come, Mr. Davis wrote these words:

**"We must be ready to make costly sacrifices of blood and treasure. Despotism will deliver terrible battle ere it loose its grip on the neck of man, and the next battle will be the final and decisive one. It will be no passing cloud; but neither sun nor stars shall appear for many days after its fury bursts over the world: and they who love fair weather and smooth seas should pray that that day be put far from them."**

"Our fleet—augmented so as to be less scandalously unequal to the resources and the wants of the country—combined with that of England can sweep our enemies from the face of the ocean—and its high duty will be to pour in the supplies we furnish through every seaport of the continent, while it vigilantly intercepts all assaults on our domestic peace."

"When the people of Europe are relieved from the fears of external and despotism those great armies—so dangerous to free institutions—will melt away from the face of the earth; and with security and freedom will come peace, moderation and repose. We hold fast to the faith that the wildest theorist, the most licentious socialist, the fiercest jacobin is less dangerous, less deadly, less bloody and proscriptive than is the soft-tongued and treacherous-hearted, the crowned and anointed, the legalized and legitimate pirate against human freedom; and turning from the red republic to the redder despotism we remember that one is a passing fury, the other a perpetual scourge breathing poison and dealing death, and dwelling in darkness which is rendered doubly terrible by the blacker demons of spiritual despotism which flit around its throne the obsequious ministers of its will."

"There is something cold and heartless, selfish and inhuman, at the very core of royal natures. Lifted—like lofty mountains—far into the regions of the air, their approach to the heavens makes them only colder than their fellows of the earth. The light of the sun pours without its warmth on their heads—illuminating the distant paths of ambition, but not softening the heart so that it can relent in its inexorable purposes. Human sympathies perish in the eternal snows which wrap them round. They embody and represent the cold malignity of Satan, treacherous, cunning and cruel, unmoved in their purposes by any soft emotion, wise in the light of reason to pursue their deeds of iniquity, and infinitely removed from the reach of pity or remorse for the blood that they shed or the hearts that they break. Such is the curse with which despotic power blights its possessor; and its blackest traits have been exemplified on the thrones of Europe in the middle of the nineteenth century."

Had he lived today Mr. Davis would have said "in the first quarter of the twentieth century," for the crimes of autocracy in the present war make those of 1848 seem almost white by comparison.

The author of this remarkable, soul-stirring book ardently believed that the birth of democracy was for the higher development and responsibility of mankind, and that every consideration made it incumbent upon our people to be faithful to their standards of government. In the concluding pages of his work are the following thrilling sentences:

**"Whenever the trumpet shall sound for that judgment day, I look to see the stars and stripes of the Republic—the tri-color of the west—streaming in matchless splendor over the banners of freedom. Her youthful maturity has waxed strong by the blessings of freedom—till now her power surpasses that of France when she followed Napoleon to Moscow. Her children bless with grateful voices the God of their fathers who gave them liberty to enjoy, to protect, to transmit, and to spread. They hail the day which summons them to the field, and cheerfully recognize the duty they owe the world they have roused. By their example has Europe been waked out of sleep; at their voice have her sons grasped the sword and died the death of the free; on them has God conferred the precious guardianship of the sacred fire; and on them as on the priests of a holy religion rests the high duty of its propagation. They have lured man from the quiet and safe repose in patriarchal despotism to the knowledge of his high destiny, and inspired him with the resolution to enjoy its precious fruits. On them rests**

the great privilege of succoring their offspring in the day of its need; of adding the power of arms to the resistless power of their example: Of proving that the magnanimous spirit of liberty is equal to its pacific blessings; of maintaining in the face of fiercest despots the rights of mankind. Rather let the pillars of the Republic shake to their foundations, and her lofty battlements be overwhelmed, bearing with them the last hope of Liberty on earth, than that she should falter in the terrible hour, or swerve from the bloodiest path she may be called to tread."

This was penned sixty-five years ago, when our country was a pigmy as compared with the present. Yet Mr. Davis did not shrink from advising his country to enter the conflict with all of its energies to crush out autocracy at any cost.

That which he foresaw has come to pass. The great conflict is on, and upon its outcome depends the existence of our own country as well as of world civilization. The great power which he most feared, Russia, but a few months ago saw her once dreaded autocracy crumble and fall to pieces in the mildest revolution ever accomplished, especially considering the magnitude of the former empire. France has also been a republic for many years, her Emperor, the whilom Prince-President, having lost his crown after waging an unsuccessful war much in the same fashion that Nicholas of Russia recently lost his imperial baubles and authority.

And England still stands at the gateway of Europe, as before. She still "bristles with the every danger that terrifies ambitious despotism." This explains why Kaiser Wilhelm saw to it that imperial doctrines were instilled into the minds of children as soon as they began going to school; this is the real reason for a "Hymn of Hate," of repeated exclamations of "Gott Strafe England," and this is why he shook with rage when he exclaimed in horror-stricken tones over the news when England entered the war.

Our alliance with England has come about, but there is also an alliance with France and with Russia, and we are fighting by the side of Belgium and Italy as well. These great nations are aligned against the forces of despotism in what practically amounts to one alliance. It is such a temporary alliance as the great Washington suggested and advised for emergencies, and the emergency is at hand.

Henry Winter Davis was born at Annapolis, Md., in 1817; he died in 1865. He was educated at Kenyon College, Gambier, Ohio, and became a lawyer, taking up his residence in Baltimore in 1850. He served three terms in the House of Representatives at Washington, and was a vigorous opponent of secession. He was one of the ablest statesmen Maryland ever produced.

SAMUEL G. WILMER.

## HANDS ALL ROUND

By ALFRED TENNYSON.

[A note on this poem written by Hallam Tennyson, heading the verses, in Macmillan, 1908 edition of Tennyson's poems, says:

"When 'Briton, Guard Your Own,' and 'Hands All Round' were written, my father, along with many others, regarded France under Napoleon as a serious menace to the peace of Europe. Although a passionate patriot and a true lover of England, he was not blind to her faults, and in later years, after the Franco-German War, he was filled with admiration at the dignified way in which France was gradually gathering herself together. He rejoiced whenever England and France were in agreement and worked harmoniously together for the good of the world."

It is an interesting coincidence that this poem of Tennyson's, as near as can be learned, was written about the first part of 1852, or just about the time Henry Winter

Davis wrote his book, "Ormuzd and Ahriman," and from which we have quoted so freely in the foregoing. Tennyson, in the two last verses, and Davis, though probably unknown to each other, were voicing the same sentiment.—ED. MANUFACTURERS RECORD.]

First drink a health, this solemn night,  
A health to England, every guest;  
That man's the best cosmopolite  
Who loves his native country best.  
May Freedom's oak forever live  
With stronger life from day to day;  
That man's the true conservative  
Who lops the moulder'd branch away.  
Hands all round!  
God the tyrant's hope confound!  
To this great cause of Freedom drink, my friends,  
And the great name of England round and round.

A health to Europe's honest men!  
Heaven guard them from her tyrant's jails!  
From wronged Poerio's noisome den,  
From iron'd limbs and tortured nails!  
We curse the crimes of Southern kings,  
The Russian whips and Austrian rods.  
We, likewise, have our evil things;  
Too much we make our Ledgers Gods.  
Yet hands all round!  
God the tyrant's cause confound!  
To Europe's better health we drink, my friends,  
And the great name of England round and round.

What health to France, if France be she,  
Whom martial prowess only charms?  
Yet tell her—Better to be free  
Than vanquish all the world in arms.  
Her frantic city's flashing heats  
But fire to blast the hopes of men.  
Why change the titles of your streets?  
You fools, you'll want them all again.  
Yet hands all round!  
God the tyrant's cause confound!  
To France, the wiser France, we drink, my friends,  
And the great name of England round and round.

Gigantic daughter of the West,  
We drink to thee across the flood;  
We know thee most, we love thee best,  
For art thou not of British blood?  
Should war's mad blast again be blown,  
Permit not thou the tyrant powers  
To fight thy mother here alone,  
But let thy broadsides roar with ours.  
Hands all round!  
God the tyrant's cause confound!  
To our great kinsmen of the West, my friends,  
And the great name of England round and round.

Oh, rise our strong Atlantic sons,  
When war against our freedom springs!  
Oh, speak to Europe thro' your guns—  
They can be understood by kings!  
You must not mix our Queen with those  
That wish to keep their people fools;  
Our freedom's foemen are her foes,  
She comprehends the race she rules.  
Hands all round!  
God the tyrant's cause confound!  
To our dear kinsmen of the West, my friends,  
And the great name of England round and round.

## COTTONSEED PRODUCTION AND SHIPMENTS.

OUT of a total of 4,461,402 tons of cottonseed received at cottonseed-oil mills from August 1, 1916, to May 31, 1917, and the 14,329 tons left over from last year's crop, the Census Bureau reports that 4,269,700 tons have been crushed, leaving on hand at the mills May 31, this year, 105,971 tons. Exclusive of the amount of cottonseed on hand with the beginning of the 1917 season and the 4,461,402 tons received since August 31, 182,845 tons of seed were reshipped.

The cotton crop of the South has produced thus far from its seed foodstuffs amounting to 1,182,138,505 pounds of refined oil, 2,139,781 tons of cottonseed cake and meal and 948,386 tons of hulls.

During the period under discussion this country imported 8,900,279 pounds of cotton oil, while its exports amounted to 139,732,356 pounds of cotton

oil, 497,873 tons of cake and meal and 394,830 bales of linters which are used in the manufacture of explosives.

Cottonseed products manufactured, shipped out and on hand are enumerated in the following table:

Item.	On hand August 1.	Produced August 1 to May 31.	Shipped out August 1 to May 31.	On hand May 31.
Crude oil, pounds.....	16,807,871	1,351,628,558	1,309,198,407	68,732,344
Refined oil, pounds.....	221,639,915	11,182,138,505	.....	1324,455,716
Cake and meal, tons.....	179,518	2,139,781	2,109,435	209,864
Hulls, tons.....	56,656	948,386	893,440	111,602
Linters, 500-lb. bales.....	15,206	1,278,768	1,163,704	112,660
Hull fiber, 500-lb. bales.....	18,560	402,085	411,563	9,795
Motes, grabbats and sweepings, 500-lb. bales.....	2,161	32,560	24,237	111,506

\*Includes 4,438,521 and 7,169,603 pounds held by refining and manufacturing establishments August 1 and May 31, respectively, and 16,751,249 pounds in transit to refiners and consumers May 31.

†Produced from 1,270,670,601 pounds crude oil.

‡Includes 14,969,672 pounds held by refiners, brokers, agents and warehousemen at places other than refineries and manufacturing establishments, and 9,839,129 pounds in transit to manufacturers of lard substitute, oleomargarine, soap, etc., May 31.

§Includes 12,390 bales of linters, 713 bales of hull fiber and 1022 bales of motes, grabbats and sweepings stored elsewhere than at the mills.



## A SUPREME TEST OF THE NATION'S MANHOOD IN THE DEMAND FOR NATIONAL WAR PROHIBITION OF THE LIQUOR TRAFFIC.

**I**F in the light of the fearful curse of the whiskey traffic and its awful consequences in war times especially this nation should fail to entirely prohibit the liquor traffic as a war measure, it would be dooming to certain destruction hundreds of thousands of the young men it is calling to the colors.

We are asking millions of men to offer their lives as a service for the safety of the nation, and unless we entirely prohibit the curse of the liquor traffic we shall be welcoming them with one hand into the army and stabbing them in the back with the other hand through permitting the accursed liquor interests and all the vile and immoral associations connected with the liquor business to seek to ruin their bodies and damn their souls.

This great nation cannot afford to permit one of the vilest interests which has ever cursed humanity to control the situation, and for its own financial profit bring ruin and death to the men in the army, lessen their efficiency for war and add immeasurably to all the horrors and sorrows which we must face.

It is well known that there is a great amount of drinking among some of the troops now in service, and the power of the liquor traffic has been such as to encourage young men who never drank before to become drunkards now, to tempt young men whose lives have been clean and pure to become unclean and impure, and the liquor traffic is responsible for this great evil.

Alarmed as the liquor interests are by the overwhelming demand of the country for national prohibition, a tremendous fight is being made to kill the Prohibition bill now in Congress.

Some time ago a Canadian father went down to the ship to bid good-by to his son, whose regiment was sailing for England. This son, who had never before entering the army been a drinking boy, was so drunk that he did not recognize his own father, and a leading Canadian business man in speaking of this as one of the sad effects of the drink curse in Canada said to the writer how unspeakably great would be the good if the United States should as a war measure prohibit the whole liquor traffic. If we do not prohibit this traffic, tens of thousands of mothers and fathers will have to face the sad reality that their sons, clean, wholesome, sober boys when they left home, have by the connivance and the co-operation of the National Government been made drunkards. Are we as a nation willing to face that issue?

The suggestion that this nation must continue the liquor traffic in order to get the income which comes from whiskey and beer is unworthy of any decent, self-respecting man. As well might one say that the nation should broadly license and encourage immorality for a fee in order to increase its income. Income begotten by such unholy work would forever be a curse, and income which comes through the licensing of the liquor traffic makes the nation and every citizen a co-partner with Satan in this Satanic work of killing body and soul.

Long before the United States entered the war a memorial for National Prohibition had been sent to one thousand of the foremost men of America, and they were asked for their signatures if they approved the statements which it contained. This memorial was promptly signed by the great business leaders of the country, such men, for instance, as President Vanderlip of the National City Bank, the

largest financial institution in America; Chairman Gary of the United States Steel Corporation, and hundreds of other leaders in the business activities of the country, financial and industrial and mercantile. It was signed by many of the foremost physicians and surgeons of the United States, including such men as Dr. Theo. C. Janeway of the Johns Hopkins Hospital; Dr. W. J. Mayo of Rochester, Minn., one of the world's great surgeons; Dr. L. E. Holt, professor in children's diseases in Columbia University, and by other physicians and surgeons of equal note. It was signed by the presidents of railroads, by great engineers and contractors, by editors of many leading publications and by public men generally.

This list of signatures is probably the most remarkable that ever appeared on any document issued in the United States. This memorial signed by these men was as follows:

**"In view of the scientifically proved unfavorable effects of the use of alcoholic beverages even in small quantities;**

**"And in view, therefore, of the colossal, physical, mental, moral, economic, social and racial evils which the manufacture and sale of alcoholic liquor entail;**

**"And in view of the inadequateness of all methods hitherto employed to check or regulate these evils;**

**"And in view of the great and rapid growth of public knowledge and sentiment on this subject as shown by anti-alcohol agitation and legislation through most of our national area,**

**"The undersigned believe the time has come for the Federal Government to take steps looking to the prohibition in the United States of the manufacture, sale, import, export and transport of alcoholic liquors."**

Since this memorial was issued war has come upon us, and every argument then advanced in behalf of national prohibition becomes intensified and emphasized by war. The nation cannot afford to ally itself with the whiskey traffic and all the immorality connected with the whiskey business. It cannot afford to disregard the teachings of scientists, the appeal of great business leaders, the railroad operators, the physicians and surgeons of the country.

We now have as a nation the opportunity for banishing the whole liquor traffic during the war, and by making a clean country enable our soldiers and sailors to go into the war unhampered by the curse of liquor and the evils which forever are tied to the liquor traffic. Have we the manhood to do it?

## PLANTING OF MORE PEANUTS AND SOY BEANS URGED.

**U**RGING the more extensive planting of peanuts and soy beans, G. A. Cardwell, agricultural and immigration agent of the Atlantic Coast Line Railroad, has addressed a letter to the owners of cottonseed-oil mills in the Carolinas and Virginia, in the course of which letter interesting facts about the present demands for peanut and soy bean products are presented. Mr. Cardwell points out that not only are these products a valuable article for human food, and also for stock feed, but that there is an increasing demand for the oils of peanuts and soy beans in the arts and industries. As an illustration, it is mentioned that soy-bean oil is used in the manufacture of paints, printing ink, soap,

\*With the understood exceptions for medical, sacramental and industrial purposes.

waterproof goods, medicines and in lubricating and lighting.

In the Carolinas cottonseed-oil mills have engaged in the manufacture of soy-bean oil to a considerable extent, and many of the mills of the South are encouraging the planting of larger acreage of both soy beans and peanuts. In Texas Mr. Cardwell cites more than a hundred cotton-oil mills engaged in crushing peanuts last year, and it is stated that the mills of Georgia and the Southeast generally are preparing to crush peanuts on a larger scale during the present year. The prices paid for soy beans and peanuts make the crop a very profitable one for farmers to raise, and the managers of oil mills are urged to encourage the farmers in their respective sections to plant soy beans and peanuts wherever practicable.

Suggestions as to more desirable varieties of both soy beans and peanuts are included in Mr. Cardwell's letter, and it is stated that both crops can be planted on grain land up to July 15. It is especially urged that the planting of soy beans and peanuts be engaged in at this time as a means for defeating the ravages of the boll-weevil, which is steadily encroaching on the Southeast cotton-raising section in its march from the Rio Grande to the Atlantic Ocean.

War conditions, which have prevented the importation of peanut and soy-bean oil in former volume, create a condition which is likely to continue for some years, during which there will be a demand at very profitable prices for all the peanuts and soy beans that can be raised in the cotton belt.

## "MEATLESS AND WHEATLESS" MEALS.

**S**OME time ago the Birmingham Real Estate Exchange inaugurated the policy of having "Meatless and Wheatless" dinners at its weekly gatherings, which should be adopted by Boards of Trade, Rotary Clubs and other civic organizations, so as to set an example that would aid materially in conserving the meat and wheat products of the country. The question of excessive eating and wasting of foodstuffs unless systematically curtailed by the whole country will surely vitally affect humanity in general.

It is the duty of every business organization, private club, hotel or wherever meals are served to lessen the variety and quantity of foods served to individual orders, and especially of the meat and wheat products, so as to eliminate as far as possible all waste. Everyone who is familiar with the character of meals served at the larger hotels and restaurants and clubs knows what a great amount of food is absolutely wasted. In many cases the portions served are twice the amount that can be eaten by anyone with a normal appetite. How many hundreds of thousands of starving women and children could be fed from the food thus lost by our wasteful dining methods? It is up to hotels and restaurants and clubs to stop this waste at once.

There is already a movement in New York to get hotels and restaurants to reduce the portions served at meals, and the dining-car system of one railroad has arranged to serve in addition to its regular meals a "War Portion" order, which is about one-third of the usual amount of food served to one person.

Spasmodic, here and there, attempts to remedy present wasteful methods of serving food at public eating places will not get us anywhere. What is needed is a general awakening of the people of the whole country to the seriousness of the situation and make them realize that each individual is responsible, and not let them think that it is the other fellow that is to blame. The diner who orders promiscuously from the menu and then only eats a little of each article, leaving the rest to be thrown out, is as much to be condemned as the one who prepares the wasteful portions. When you order food, order wisely; when you eat, eat enough, but eat wisely. Many a man has dug his grave with his teeth and harmed only himself, but if people persist in doing this now, they will be helping to dig the grave of many starving children.

## SUPPRESS THE TRAITORS, OPEN AND SECRET ALIKE.

**A**LL that this nation holds dear in life, in womanhood, in liberty, in the sacredness of homes, in religion, in business, in government, is at stake, and the danger is terribly great.

Every potentiality of the nation will be needed to save ourselves from complete destruction, and destruction as ruthless, as frightful as that of Belgium. Indeed, the bitterness of Germany against us would result in even more fearful conditions here than existed in Belgium if Germany, through the destruction of France and England, were able to land on our shores through Canada and turn this land into a condition which would make General Sherman, if he were alive, apologize to Hell for speaking of war as hell.

These are not overdrawn statements. They are not figments of an overheated brain. They merely express in sober language what every man in this country who has had the opportunity to look on the inside of things during the last two years knows to be the case. Facing this situation with a determination to win, regardless of the cost—and win we shall—we are permitting ourselves to be handicapped, indeed, our country to be betrayed, by the traitors, open and secret, who in every possible way are trying to foment trouble in our own land. Some German-American papers are openly and aggressively fighting the United States and encouraging pro-Germans of this country. Even in Congress there are men who are still so pro-German in sentiment that they would apparently be willing to sell their nation rather than see Germany defeated.

There are some millions of pro-Germans in this country. Fortunately, many other Germans and those of German descent are honest, true-hearted men and women, and are ready to stand by this, their own land, as against Germany. To them all honor. But there are some millions of Germans who are not citizens, and of citizens who are of German descent, but who would stab the country in the back, would welcome to our shores the invading hosts of Germany's army of beasts and brutes and rejoice in the privilege of heralding themselves to this incoming army as friends of Germany. These men and women who uphold Germany's murderous campaign are themselves co-partners in the vilest work that has ever been done on earth.

**Every man or woman who upholds Germany in its campaign of ruthless savagery and outrage is himself or herself steeped in sin with a heart as black as that of the murderer and the outrager.**

We need not attempt to hide these facts from ourselves, nor, like the ostrich, bury our head in the sand and refuse to see them. There are going up and down this land, uncontrolled by the Government, some millions of enemies who are as ready in every way possible to embarrass this country and aid Germany as are the ruthless murderers on the submarines who seek to send to the ocean's depths the innocent women and children on torpedoed ships, and as are the men in the armies invading France and Belgium, whose record is the blackest in all the pages of human history.

Accustomed as we have been in this country to deal leniently with agitators and those who fight the Government, we are making it by the present leniency absolutely certain that your son, or your neighbor's son, or other loved one, by the tens of thousands, must die on the battlefields because of the work of these pro-Germans in this country. Their work lessens the strength and power of this Government and strengthens the arms of Germany as it seeks to overrun the world. Some of these pro-German newspapers reek with the rottenness of their defense of Germany and their denunciation of the people and the Government of this country; and yet the Government permits them to go on in their shameless, traitorous fight against the nation, and because this is permitted, thousands and tens of thousands of the very flower of this country will have to die by reason of the work of these pro-Germans and the pro-German papers, and because of our failure to make it impossible for such pro-German activities to continue. We have been ac-

customed so long to our easy ways that we have overlooked this situation, and we have let the pro-German overrun the country at large, planting wherever possible their seeds of death.

We have been told that we must not go into this war with any spirit of hate. When your son loses his life because of Kaiser Wilhelm's murderous campaign and of the activities of the pro-Germans in this country, must you love the satanic power that doomed him to death?

We do not so interpret the teachings of the Almighty.

Must you stand idle while the ravisher and the murderer enters your house and make no effort, with holy wrath, to destroy them ere they destroy your family? Cursed forever in this world and the next would be such a coward.

The people of this country must open their eyes to this situation. They must cut loose from every social and family and business tie of the pro-German, it matters not how poor or how rich, how high or low he or she may stand. Those who are favoring Germany are favoring open murder and outrages upon the innocent, and those who favor the ones who favor these things are themselves participants in this guilt. There is no middle ground. There is no basis for compromise. The law condemns the traitor and also the one who hears a traitorous expression and does not report it to the Government officials. He who fails to report any traitorous expression is, according to law, himself a traitor, and is liable to punishment as a traitor. This must be driven home into the hearts of the people until they are aroused to the realization of this last great world fight upon which we have entered—a fight upon the success of which depends the safety of every woman and child in America as well as in other lands. There is no story that has ever been told about Germany's atrocities that is one-half so bad as the reality.

If the civil authorities will not take measures to suppress these pro-Germans and to intern or imprison every one in any way whatever guilty of pro-German act or speech and control the movements of every German in the country who is not naturalized, then we shall need martial law throughout the land in order that the military authorities may do what they know is essential to our safety.

## SOUTH'S CONTRIBUTION TO NATION'S FOOD SUPPLY.

**T**HE important contribution of the South to the food supply of the entire country is commented on by Robert C. W. Ramspeck, secretary-manager of the Newbern Chamber of Commerce, Newbern, N. C., in a letter to the MANUFACTURERS RECORD referring to an editorial in a recent issue of the MANUFACTURERS RECORD criticizing Mr. Carl Vrooman, Assistant Secretary of Agriculture, for his unjustified denunciation of the South for its failure to raise everything it needs, the inference being that the South depends on other sections of the country for its food supplies. Mr. Ramspeck says:

It is interesting to note that the eastern part of North Carolina has within the past few weeks, according to United States Government statistics, shipped approximately \$5,000,000 worth of potatoes—practically all of which went to Northern markets. The total shipments from the State have been 3666 cars up to and including Monday, June 18. Newbern alone has shipped approximately 600 cars. The cars average about 200 barrels at an average value of about \$7 a barrel, so it will readily be seen that the eastern section of the Old North State has contributed an enormous amount of food products to the Northern States within the past few weeks.

This statement as to what one section of a single State of the South has done in the way of contributing food supplies to Northern States indicates a reprehensible looseness in the statement of which Mr. Vrooman was guilty when he sought to create the impression in the minds of the public that the South is a laggard in food production. As a matter of fact, there would be a famine in foodstuffs throughout the North and West for a considerable part of every year if it were not for the fruits and vegetables the South continually supplies to the markets of the States outside of the South.

## IMPORTANCE OF SOUTH'S ADEQUATE REPRESENTATION AT COMING CHEMICAL EXPOSITION.

**I**NDICATIONS point to the Third National Exposition of Chemical Industries to be held at the Grand Central Palace, New York City, the week of September 24, far exceeding both in exhibits and attendance either of the two previous expositions. In fact, the demand for space proved so great that it was necessary to secure an additional floor, and a large part of this third floor has already been assigned.

The managers of the exposition report that not only will the scope of exhibits be much broader but far more interesting than its predecessors in that the chemical and allied industries of this country will be represented in a more complete manner than heretofore, and visitors will have a chance to see the wonderful development in all branches of chemical industry that has taken place in this country since the European War started, or in a short space of three years.

The exposition held last year contained the section known as the "Southern Opportunity Section" which was especially arranged and grouped together for the sole purpose of affording those of the South a place to exhibit its varied raw materials suitable for chemical, mineral and associated industries. While there were a few representative exhibits from the South, and those exhibiting, expressed themselves as well repaid for their efforts, the South was not represented in the way that it should have been.

No other section of the country contains as wide a range of raw materials and such complete advantages for turning them into the many chemical products needed as does the South, and when it is considered that these expositions form the annual meeting place for the leading chemists, chemical engineers and all of those who have been the real active and financial supporters of this development, it will be realized that unusual opportunities are offered by these expositions for the South to set forth its raw materials with the certain knowledge they will be brought to the attention of the people most interested in them. So far arrangements have been made by the exposition management for a larger number of railroad communities and manufacturers of the South to be represented in the coming exposition. These include the following:

Carolina, Clinchfield & Ohio Railway.  
Nashville, Chattanooga & St. Louis Railway.  
State of North Carolina.  
Southern Railway System.  
Central of Georgia Railway.  
Tennessee Coal, Iron & Railroad Co.  
Products Sales Co.  
Norfolk & Western Railway Co.  
B. Miffin Hood Brick Co.  
Chemical Construction Co.  
Freeport Sulphur Co.  
Manufacturers Record.  
The Victor G. Bloede Co.

While these are more than were at the last exposition, they are far too few for a proper representation of the South's resources. The "Southern Opportunities Section" has again been set aside for the benefit of Southern exhibitors.

It is doubtful if there has ever been presented an opportunity to exhibit at a gathering that would be fraught with greater benefits for the South because at this exposition will be present the foremost chemists and chemical engineers of the country, the executive and operative heads of the great industries that have been established to manufacture a wide range of chemical products, many important investors and financial interests who furnish the funds for carrying forward these undertakings and who naturally would be impressed with such a showing as the South can make. These visitors are earnest men of capital, science and industry, and they come from many and varied endeavors.

The Chemical Exposition is a serious exposition for serious minded men who are earnestly striving to create industries in this country that will free American manufacturers from dependence upon foreign supply. The exposition therefore is not visited by the idle curiosity seeker but by men who know things when they see them and come to this exposi-



tion to acquaint themselves with opportunities that will fit in some of the plans for broadening our chemical and associated industries.

The first exposition held two years ago had the attendance of 63,000 visitors, last year there were 80,000 and when it is realized how these industries have expanded during the past year, there is every reason to expect probably as many as 100,000 visitors this year.

The Bureau of Commercial Economics at Washington is this year again preparing many of the motion picture films that will be shown at the exposition, and many exhibitors have now in preparation pictures showing phases in their work in the manufacture of their products. These will be of all-absorbing interest, the more so when, as stated, many are of processes that have been photographed for the first time, and their first showings will be made at the Chemical Exposition.

The MANUFACTURERS RECORD has no hesitancy in strongly recommending that Southern States, Southern communities, Southern railroads and Southern manufacturers participate by adequate exhibits at this exposition in September. The MANUFACTURERS RECORD was represented last year with a booth that aimed by maps, signs, statistics and copies of its special number, "The Chemical Potentialities of the South," to set forth as strongly as it could the broad range of possibilities for chemical industries in the Southern States.

With a number of the members of its staff on hand an opportunity was available to carefully study and analyze the value of this exposition to the South, and this endorsement is the result of appreciation of the possibilities to be achieved through participation in this undertaking.

The MANUFACTURERS RECORD has arranged to be represented at the coming exposition for the same purpose of centering attention of the visitors upon the South's resources, but it is very much to be hoped that others from the South will join those who have already arranged for space so that the "Southern Opportunities Section" may be more truly representative of the opportunities offered by the South as a location for many kinds of chemical plants. These great industries are being established in America as permanent ones, and the communities which are successful in securing chemical industries in the beginning are the ones that are going to become the great centers of this important industry in this country.

The South is the place where most of them ought to be; it is where the raw materials, the coal and the water powers are to be found in abundance and which are the main requirements, but it needs co-operative effort and aggressive exploitation in order to bring its advantages properly and convincingly before the leaders in these industries.

The Chemical Exposition affords an avenue through which a large part of initial promotive work can be done and a basis established for reaching the most influential factors.

## WHY SOME CONGRESSMEN WANT TO TAX NEWSPAPERS.

MR. WILLIAM G. McADOO, Secretary of the Treasury, pays a deserved tribute to the newspapers of the country when he says that without the support of the press the hope that the Liberty Loan would be a popular loan would not have been realized. At no other time in the nation's history has the press as a whole shown greater evidence of unqualified patriotism. What the newspapers did for the Liberty Loan they are now doing for the Red Cross. The amount of space devoted by newspapers, large and small, to these good works represents millions of dollars.

In the light of this record it seems bad grace, if nothing else, for legislators at Washington to be engaged in an effort to cripple the newspapers by onerous and unjustified taxation. In protesting against the proposal to levy a special profits tax and to increase the cost of second-class postage by 25 per cent. the American Newspaper Publishers' Association speaks for all the newspapers.

Whether owned by a corporation, a partnership or an individual, the newspaper now is subject to all the forms of taxation levied against any other business enterprise. The newspapers are not seeking to escape the burdens which other legitimate businesses have to bear; they are asking for no special consideration. They object, however, to being made a special target by lawmakers impelled by insensate desire to devise fantastic taxation which violates

every principle of equality and justice.—New York Herald.

Canada's postage rate for newspapers is just one-half of the present charge in the United States, but not satisfied with this, Congress is proposing to add 25 per cent. more to the present rate, and on top of that a special 5 per cent. tax in addition to the regular tax on earnings.

A number of Congressmen have said that the newspapers are responsible for the war and that they should therefore be made to pay as heavily as possible toward its cost. This statement has come not simply from one Congressman, but from a number of them. Is this the reason why Congress is being "worked" to hamstring the newspapers of the country?

## IF WE WOULD BE SAVED FROM A 5 TO 25-YEAR WAR OUR COUNTRY MUST BE FULLY AROUSED.

"IF Germany by some brilliant stroke or favoring accident should destroy the British fleet or overthrow the forces of the Allies on the western front, the result would be national death, and quick national death, for this greatest of all the world's republics."

The foregoing statement was made by Mr. Pomerooy Burton, an American by birth, now editor of the London Daily Mail, before the Rotary Convention, held in Atlanta last week. The truth of Mr. Burton's statement is known to all intelligent people in this country who have cared to study the subject.

No man of average intelligence can possibly look into the situation carefully without realizing that every word made in the statement we have quoted is literally true. Until the people of this country fully understand that situation we shall not be aroused to the fearful danger that confronts us. It is because the MANUFACTURERS RECORD has for the last two years known the truth so clearly stated by Mr. Burton that we have unceasingly sought to awaken our country to this danger. President Wilson knows these facts, and every member of his Cabinet knows them, and there is not an officer of the army and the navy who does not fully realize them. The officers of the army and the navy have understood this situation clearly, and since the beginning of the European war they have been pleading with our people to awaken to this reality. Mr. Burton predicted that unless this country becomes fully aroused and organizes quickly, and on an enormous scale, the war will last from five to twenty-five years.

We have contented ourselves in the belief that Great Britain and France could not be destroyed, and that the English fleet would save us, but we know now only too well that there is no assurance that the English fleet can do this, and no assurance that England and France can continue to bear the terrific burden which they have carried. This is our war. There never was a war in our history more thoroughly and wholly our war than is the one in which we are now engaged.

In discussing some phases of the war situation Mr. Burton stated facts which should be more generally understood:

I maintain that this situation demands far more than even "complete frankness with the people"—it demands a nation-wide campaign of information deliberately designed to bring the people quickly to a thorough understanding of all phases of the war, of why we are in it, of the kind of enemy we are fighting, of the urgent necessity for the whole people of the United States to join with their very hearts and souls in the stupendous task which lies immediately ahead. The war program which this task embraces cannot be made effective without the full co-operation of the people. The co-operation cannot be expected until the people have been aroused to a full and complete understanding of the war, of what it means to them and their future, and of the obligations and responsibilities which devolve upon them if it is to be won within the next two years.

I would like to repeat with the utmost emphasis what I had the privilege of stating recently to the Merchants' Association of New York, that it is absolutely essential for those who are shaping the general war program, without further delay, to organize and project, under Government direction, a great and far reaching campaign of information designed to make the people understand this war. It

should be made to reach the eyes and the hearts and the full understanding of the people by freely using the advertising and the news columns of every useful publication in the United States, and by using the movies, the billboards, the postoffices, the public buildings, the railway stations and the public conveyances, as was done in the great publicity campaigns which were successfully used to arouse the people of England to a full sense of their danger and their responsibilities at a critical period of the war. In addition to this, the schoolrooms, the lecture halls, the churches, the libraries, the city halls, the public squares—all the meeting places of the people in every State of the Union should resound with the voices of America's greatest and most forceful speakers, telling the people the full truth, the basic facts, about this war.

President Wilson has made an excellent start in this direction by pointing out to the people of the United States, in his Flag Day address, that they have embarked upon the gravest enterprise in American history, that the task is one which will call for great self-sacrifice, and making clear to them why this is so. Is it too much to hope that the President's Flag Day speech is the forerunner of a systematic and far-reaching campaign to make clear to all the people the full meaning of the war? If, coupled with this urgently-needed campaign, there could be accomplished a radical revision of the French and English censorship rules, permitting a much freer flow of all kinds of war facts and war developments from the fighting areas than is possible under existing conditions, the effect, I feel sure, would be enormously beneficial to the whole allied cause.

For instance, would it not be the height of wisdom to reverse the policy which, even yet, conceals from the world the full truth about the incredible atrocities in Belgium—atrocities which, if possible, have been outdone in Rumania, and which up to now have not been publicly disclosed; adopting a new policy which would release to the whole world the story of appalling barbarities perpetrated by the Germans there—many of them too horrible to describe from a public platform, but all of them serving to show the people here what they might expect in the event of a German invasion of the United States; what sort of enemy, in fact, it is that we are fighting; exposing the fiendish devilry which caused thousands of poisoned candles filled with typhus germs, to be dropped from German aeroplanes for Rumanian children to pick up and eat; the tragic story of how the Queen's little boy, her youngest, picked up one of these poison-laden sweets in her garden, ate it, sickened almost at once, hovered between life and death for weeks, and finally died in her arms, this story being written by the Queen's own pen and sent to a lady who has recently returned to New York and who has the letter with her now; the shocking story of how brutal German soldiers forced gentle and refined Rumanian women to disrobe in public, and then drove them in groups through the streets; the story of Rumania's pitiable plight today, with disease raging unchecked for lack of surgeons, physicians and medical supplies; the blood-curdling details of scores of submarine sinkings where non-combatant victims were ruthlessly shot down, or, when they escaped that horrible fate, were cast adrift without food or water, in small boats on the high seas, to die one after the other from madness and from thirst; and, in a different category, the thrilling stories of those combats in the air which are taking place every day over the fighting lines in France, stories of courage and daring the like of which have never been equaled in the widest realms of fiction; the countless stories of noble heroism, of human sacrifice and suffering for a great cause, which show in their true light the details of modern warfare, so persistently concealed, and so urgently needed to stir the people's pulse and to make them feel and realize the truth and the full truth about this gigantic struggle between Right and Wrong on the one side and Might alone on the other.

Reverse this policy of secrecy, let the people at home have these and other true pictures of the war as it really is, and I firmly believe the response would be electrical—the people of the United States would rouse as one man to their task, fired with patriotic fervor born of a full and true understanding of what this war means to them and their future, of the individual obligations it imposes upon those at home as well as upon those who are constantly facing death in the firing line for the sake of those at home.

And this, it seems to me, is of paramount importance in view of circumstances which exist today clearly indicating that, as this country organizes for war quickly or slowly, well or badly, earnestly or haltingly—so will the end of the war be soon or long in coming.

## GRAVE MENACE TO COTTON CROP IN PINK BOLL-WORM.

AN effective order of quarantine against the pink boll-worm is proposed by the United States Department of Agriculture. An emergency appropriation of \$500,000 for carrying on the work is asked by Congress. The pink boll-worm, which was introduced into the Laguna district of Mexico from Egypt last year, has been spreading out its activities until it covers an area of more than 12,000 square miles.

The MANUFACTURERS RECORD pointed out last fall that the pink boll-worm is the most dangerous menace the cotton crop of this country has ever faced. It is more destructive than the boll-weevil itself.

which since its introduction from Mexico some twenty years ago has steadily advanced from the borders of Texas until it has almost reached the Atlantic seaboard, leaving a trail of destruction in its wake. Methods of combatting the boll-weevil have been successfully undertaken in a degree, although an enormous loss to the cotton crop of the South has occurred, and it is necessary to use more vigilant methods every year to combat the ravages of the pest. Had effective measures been adopted to quarantine against the weevil when it first made its appearance at the Rio Grande, it is considered likely that the invasion could have been stopped on the Texas border.

Effort will now be made to prevent the introduction of the more destructive pink boll-worm. One of the propositions is to create a cotton-free zone from fifty to a hundred miles wide in Texas next to the Mexican border. A quarantine against the importation of foreign cottonseed has been in effect for some time, and it is hoped that by co-operation with Mexican authorities the pest may be shut out of this country and its extermination in Mexico brought about.

### ENCOURAGE PHILANTHROPY BY ELIMINATING INCOME TAXATION FROM ALL MONEY GIVEN TO RELIGIOUS AND CHARITY ACTIVITIES.

THE subscription of \$100,000,000 to the Red Cross Fund, which may possibly have to be duplicated by the time the year ends if that organization is to do its full measure of work, is an indication of the tremendous call which will be made upon the country for contributions for charity and religious work. It would seem to be the part of wisdom for the National Government to give the utmost encouragement to work of this kind in order to stimulate the people of the whole country to large contributions to charity and to benevolent purposes generally.

**The people of this country must now work not for the purpose of accumulating money, but for the purpose of making money in order to give it away.**

Never was there a greater opportunity for the people of any nation to concentrate their whole energy as expressed in business activities for the purpose of making money to serve mankind with it. While not all money makers will rise to this self-sacrificing spirit, it will be the part of wisdom for the nation to encourage such a spirit and not to tax as a part of incomes that portion given to such charitable and religious work.

If a man contributes \$10,000 to work of this kind and yet has to pay a heavy income tax on what he has given away, it lessens his ability to give and discourages his philanthropic activities.

To meet this situation some way should be devised for exempting from income taxation all money contributed to work of this kind.

### SOUTHERN BONDS FIND READY MARKET AT HOME.

HOW the financial institutions of the South and others of this section appreciate the merits of securities issued by its counties, towns, cities, etc., is shown by the following telegram, which is characteristic:

Chester, S. C., June 25.  
Manufacturers Record,  
Baltimore, Md.:  
Chester county road bond issue, \$450,000, sold at par and accrued interest to banks of this city today.  
CHESTER CHAMBER OF COMMERCE.

Many other instances of Southern individuals, banks, trust companies, private banking firms and individuals purchasing municipal bonds issued locally are plentiful throughout the South. Among sales recently reported are \$1,000,000 of drainage bonds in Arkansas to one man, Jas. Gould, at Pine Bluff; another sale of \$65,000 road bonds at Newport, Ark., to the Mississippi Valley Trust Co. of

St. Louis; a third, at Griffin, Ga., of \$40,000 of street bonds to the Trust Company of Georgia of Atlanta; at Winston-Salem, N. C., \$50,000 of road bonds were bought by the Wachovia Bank & Trust Co. of that city, and at Fayetteville, W. Va., \$100,000 of road bonds were purchased by the State of West Virginia as an investment for the Workmen's Compensation fund.

Not only are numerous purchases of Southern securities by Southerners reported every week, but the home demand for Southern bonds is steadily growing.

### IN PRAISE OF RIGHTEOUS WAR.

[Walter Malone, in the Memphis Commercial-Appeal.]

I am coming not in a weakling's verse, with a milksop's feeble whine,  
With uplifted hand and with soft-voiced drawl, aghast at the battle line;  
But I come to praise the fight that is fought for the sake of Truth and Right,  
The fight that is fought for God and for Home that will mate the Right with Right.

Yes, patience is good, and humility, too, and so is the pipe of peace,  
But the time will come when forbearance ends and your sugary smiles must cease;  
Then either your hand must grip at your gun and brighten the sword from its rust,  
Or your slavish neck must bend to the yoke and your mouth must chew the dust.

You must fight for the fire that toasts your feet, for the roof that shelters your head,  
For the herd that yields you its milk or meat, for the field that gives you bread;  
You must fight for bed, you must fight for board, for the woman you love the best,  
And, oh, you must fight with a tenfold will for the baby at her breast.

When a mad dog comes down your village street, with the green foam in his jaws,  
Do you greet him with Bibles and hymn-books and lovingly bid him pause?  
When a rattlesnake rises amidst your path, alert with its fiery sting,  
Do you pet him, and pat him, and wish him well, and a song of welcome sing?

When a big-armed bully among the Powers says the folk of a little land  
Must sprawl in the dirt and confess a crime that never besmirched their land,  
Do you blame that people that rises up a pigmy ready to fight,  
A David aroused, with only a sling, defying Goliath's might?

When a vain war-lord with a swollen head, inflamed with a brute desire,  
Through a little State that was lapped in peace comes tramping with blood and fire,  
Despoiling the fields and looting the towns—do you blame that blameless State  
For rousing in Godlike righteous wrath and hitting with righteous hate?

Yes, patience is good, and so is peace, but he is not worthy of good  
Who will not rush forth when the spoiler comes to defend it with his blood;  
When that spoiler comes with his bandit crew to shatter with shot and shell,  
Let the good man rise, with a fervent prayer, and give him hell for hell!

### Appreciated for Editorials and Vital News Interest.

J. A. CLAY, Hunter, Penry & Hunter, Lawyers, Fort Worth, Tex.

Enclosed please find my check for \$4 in payment of my subscription to the paper up to March 28, 1918. I formerly took your paper for the news on bond issues and other financial matters. At the present time the bond business in Texas is practically nil, as a number of municipalities have received no bids on very strong issues, probably on account of the recent Liberty Loan bonds; but despite that fact I am glad to be able to continue my subscription, because I appreciate very highly the editorials and vital news interest of your paper.

### AN AMAZING SITUATION IN WASHINGTON AS TO COTTONSEED OIL.

**How Long Will This Splendid Product Be Fought by the National Government While the World Goes Hungry for It?**

By JOHN T. ASHCRAFT, Vice-President Ashcraft Cotton Mills of Florence, Ala.

I have just read your article in the MANUFACTURERS RECORD of May 24, page 55, the "South Defended Against the Charge of Not Raising Enough Food Crops," and, on behalf of the cottonseed crushers of the South, I want to thank you.

While it seems the neglect of the Department of Agriculture to mention the wonderful food value of the cotton crop is an intentional oversight, yet we should not be too sure of this.

In his opening address, June 18, upon the Food Bill, Mr. Lever, chairman of the Committee on Agriculture and one of the South's most honored and respected representatives in Congress, a citizen of South Carolina, where immense quantities of vegetable oils are produced—this great Southerner mentioned 80 different items of food bought and sold in the city of Washington, yet in this long catalogue there is no mention of vegetable oils in any form. It is well known that large quantities of vegetable oils are used in the manufacture of oleomargarine, and that ten times as much of this oil would so be used in this manufacture if the present legal restrictions were removed. It is also well known that oleomargarine is the only food produced exclusively under the supervision of the United States Department of Agriculture. It is also well known that a large quantity of this table food is bought and sold in the city of Washington. Yet this great Southerner made no mention either of this Government-inspected food or of the vegetable oils which are largely used in its production and immense quantities of which are also used for cooking fats.

You will also probably be interested to know that recently a committee made up of representative men from all parts of the South visited Washington in the interest of the enlarged use of vegetable oils as food in this great time of need. This committee called the attention of the proper officials in the Department of Agriculture to the fact that in the various forms of food advice, menus, etc., issued by the department oleomargarine was never mentioned, notwithstanding it was the only food produced exclusively under the supervision of the department, and the astounding information was given that it was against the policy of the department to mention this food in its food advice.

Recently a Southern Congressman applied to the United States Treasury Department to know if agricultural colleges would be permitted to teach the science and art of churning vegetable oils in milk. He was advised that, if the college could teach this science and art without itself churning any vegetable oils in milk and disposing of the product, it was the opinion of the department that it might do so, but that the college would not be permitted to use any product so produced, and the department advised against any such teaching because if any persons should happen to churn vegetable oils in milk and either sell the product or use it in their own home where boarders were fed, such persons would be guilty of a violation of the law and subject to heavy penalties.

### We Shall Try to "Keep It Up."

THOS. SLOO, President Whitney Supply Co., Ltd., New Orleans, La.

Accept our congratulations on the fine patriotism shown in your issue of June 21. We wish it could take the place of the daily papers and get more into the hands of the masses. Keep it up; we need it.

### Binder Twine from Saw Palmetto.

GEO. A. LOWRY, Vice-President and Consulting Engineer Palmetto Products Co., Jacksonville, Fla.

It may interest you to know that I am making binder twine matting, upholstering and broom straw from the saw palmetto.



# Striking Features of Week's News Developments at Washington

## Allies Now Getting Down to the Real Business of War.

Washington, D. C., June 26—[Special].—From now on the United States and Great Britain will so direct the world's trade as to aid in the most effective way possible toward ending the war.

The control of American exports, under the authority contained in a clause of the espionage bill, has been assumed by the President by the appointment of an exports council comprising the Secretary of State, the Secretary of Agriculture, the Secretary of Commerce and the Food Administrator.

In a statement issued Monday night, following the appointment of the council, President Wilson said:

"The free play of trade will not be arbitrarily interfered with. It will only be intelligently and systematically directed in the light of full information with regard to the needs and market conditions throughout the world and the necessities of our people at home and our armies and the armies of our associates abroad."

A series of proclamations have already been formulated by the council. The first will require the licensing of all coal and fuel shipments, with the immediate object of giving the Government a firm grasp on shipping.

A system of licensing of every class of exports to neutral countries will follow. This is designed to prevent supplies from reaching Germany. Later proclamation will designate specific commodities not to be shipped anywhere without a license.

Under an arrangement to be made with the British Government for an international shipping control enforced by bunkering and export licensing agreements the two great allied nations will hold the trade of the world in their hands.

In its intent to keep supplies out of Germany this Government is determined to hold the neutrals down to their actual necessities in exports. American agents in neutral countries will keep the closest check on re-exports, and will see to it that American supplies stop before reaching the German border.

The members of the Exports Council will probably name representatives to look after the routine work. It is expected that these will be Dr. E. E. Pratt of the Department of Commerce, Lester H. Woolsey of the State Department, Assistant Secretary Vrooman of the Department of Agriculture and a representative of the food administration.

Under the embargo provisions of the bill the President can absolutely stop shipments to such countries as Holland, Denmark and Norway unless these countries co-operate in the policy which has in view the maximum use of all vessels.

This means that their own shipping shall be diverted to the successful prosecution of the war unless drastic restrictions in food exports are to be courted by them.

It has been definitely ascertained that Germany respects the neutrality of Holland, Denmark and Norway only so far as serves her purposes. Although sending her submarines along the coasts of these neutral waters within the three-mile limit, she sinks their ships at will. On the other hand, the Entente Allies have scrupulously regarded neutral rights, although working to their manifest disadvantage.

**This will be ended.** Through a decision reached between the United States and the Allies steps will be taken to close the entire North Sea as far north as Bergen. A patrol of the Dutch, Danish and Norwegian coasts will be established, and the paths of the submarines, even within the neutral three-mile limit, will be mined.

And the definite steps will not stop here. The Allies are determined that the nominal neutrality of Holland, Denmark and Norway shall not only end as serving a shield to submarines, but shall terminate in any way to aid the cause of the Central Powers. With this in mind the Allies will shortly serve notice that any merchant vessels found within the North Sea shall be sunk, except such as are permitted by the Allies to pass. As much has been done repeatedly by the German submarines without any of the neutral nations calling Germany to task. With the issue between democracy and autocracy absolutely joined in their own field of action, the neutrals will virtually be forced to make a choice.

## Late Contracts Announced by Shipping Board.

Washington, D. C., June 25—[Special].—The following contracts for the construction of merchant vessels, in addition to the contracts previously made public, were announced by the United States Shipping Board Emergency Fleet Corporation today:

Moore & Scott Iron Works, San Francisco, Cal. Works, Oakland, Cal.—Ten complete steel cargo-carrying steamers. Deliveries—First and second in February, 1918; third in March, 1918; fourth and fifth in June, 1918; sixth in August, 1918; seventh and eighth in October, 1918; ninth and tenth in November, 1918.

Portland Ship Ceiling Co., 130 Commercial Street, Portland, Me.—Four wooden hulls. Deliveries—February 1, 1918; March 15, 1918; May 1, 1918; June 15, 1918, respectively.

Universal Shipbuilding Co., 25 Broad Street, New York City—Twelve wooden hulls. Works, Houston Ship Canal, Harris county, Texas. Deliveries—First and second, seven months after completion of the ways; third and fourth, eight months after completing ways; fifth and sixth, nine months after completing ways; seventh and eighth, ten months after completing ways; ninth and tenth, eleven months after completing ways; eleventh and twelfth, twelve months after completing ways.

McBride & Law, Beaumont, Tex.—Four wooden hulls. Deliveries—First hull on or before March 1, 1918; second hull on April 1, 1918; third hull on May 1, 1918; fourth hull on June 1, 1918.

Newcomb Lifeboat Co., Hampton, Va.—Four complete wooden cargo-carrying steamers. Deliveries—First steamer by January 15, 1918; balance, one steamer every sixty days thereafter, so that last steamer will be delivered on or before July 16, 1918.

In addition to the foregoing contracts, the following contract for the construction of marine engines is announced:

Ellicott Machine Corporation, Baltimore, Md.—Twelve vertical triple expansion marine engines, size 22-37½-60

The summary, showing all contracts to date, follows:

Total number of contracts for ships and hulls executed	22
Total number of ships and hulls contracted for	176
Complete steel ships	38
Complete composite ships	32
Complete wooden ships	34
Total complete ships	104
Total wooden hulls	72
Total number of contracts for marine engines executed	1
Total number of marine engines contracted for	12

## An American Kiel Proposed at Norfolk and Hampton Roads Naval Base.

Washington, D. C., June 25—[Special].—One of the greatest naval bases in the world will be established in the State of Virginia, on the shores of Chesapeake Bay, just above Norfolk. As soon as Congress authorizes the expenditure of the money work will be begun in the laying out of this country's largest marine base and training school.

The Navy Department has already decided upon the official name for the site. It hereafter will be known as "The Norfolk and Hampton Roads Naval Base," and if the plans of the Department are backed up with appropriations by future Congresses, an American Kiel will result.

The site of the property which will be purchased by the Navy Department includes the Jamestown Exposition site and what is known as the Pine Beach property at Sewall's Point, with deep-water anchorage. It embraces a total of 440 acres of land above high-water mark, and about 600 acres above low-water mark. In its development as a naval operating base there will be sufficient material to increase the area to 1200 acres, with a frontage on the deep-water channel leading to Norfolk.

The Pine Beach property consists of about 122 acres of high land and the riparian rights on the whole of its present water front of 2900 feet. The present holders are the Fidelity Land Co., purchasers at bankrupt sale of the Exposition Company, who had purchased and remodeled the old Exposition buildings as residences, together with small individual land owners. A third interest is the Pine Beach Company, successors to the Hampton Roads Development Co.

The old Jamestown Exposition site has been considered by the Government for a number of years for a training station. About two years ago the Navy De-

partment, in making a study of the future development of the Norfolk navy-yard, ordered the appointment of a board, of which the Assistant Secretary of the Navy was chairman, to outline the development of this yard. This board found the area available at the Norfolk yard entirely inadequate, and recommended that there be another site obtained by the Navy Department in the vicinity of Hampton Roads, where a training station, oil fuel station, fleet supply station, storehouses, etc., could be provided for, and thus relieve the congestion at Norfolk.

After the examination of many sites on the James, York and Patuxent rivers the board determined upon the Jamestown site. When this matter was taken up a committee representing a large percentage of the Chamber of Commerce of Norfolk presented the matter to the Secretary of the Navy, and their original estimate of the price was about \$1,700,000. The Secretary refused to consider this price, as in his opinion it was too high. He also refused a later estimate of \$1,635,000. A third offer of \$1,492,000 was also turned down, and in asking Congress for an appropriation the Secretary cut the limit of cost to \$1,400,000. Congress in its provisions appropriates \$1,200,000, and leaves the determination of a reasonable and proper value in the hands of the President, paying 75 per cent. of the estimated value to the owner, and in cases where the price seems unreasonable leaving him to sue for the balance, thus putting the final determination of the values in the hands of the courts.

The President is authorized immediately to take over the property for naval purposes, and its development will be proceeded with by the Navy Department as rapidly as possible. The various developments which will take place as the work is pushed by the Government may be outlined as follows:

1. Training station for 8000 men.
2. Aviation operating base.
3. Coal piers for berthing coal barges.
4. Oil fuel storage for oil fuel, gas oil, gasoline and lubricating oil for fleet use, all piers to be piped for discharging cargo and for fueling battleships, destroyers, submarines and barges.

Provision also will be made for fleet storehouses, torpedo and mine storehouses and medical storehouses.

For the recreation of the officers and men of the fleet there will be a clubhouse, recreation and drill ground, baseball and football fields, etc. Practically all of the Jamestown Exposition buildings will be remodeled by the Government as administration buildings and quarters. The aviation site to be established, in the opinion of naval experts, offers the best training field on the Atlantic Coast. Hangars for aeroplanes, coast patrol balloons, "blimps," etc., will be erected, with repair and tool shops and quarters for the men and officers taking up aviation.

It is expected that within three months the station will be developed to a point that will permit the handling of 3000 men, and an additional thousand each week thereafter until the probable limit of 10,000 is reached.

The street railways of Norfolk run into the grounds, which are seven miles from the city, and it will require only a short spur to connect the grounds with the Virginian Railroad and the belt line which connects with all of the railroads coming into Norfolk.

The site when developed, in the opinion of naval officials, undoubtedly will be the most attractive and efficient training station the navy will have, and, in addition, it will supply the long-standing need for a supply and operating base outside of a navy-yard and yet near the fleet's usual anchorage.

## Enormous War Demands on American Lumber Supplies.

Washington, D. C., June 21.—[Special].—The forests of America will be enlisted in the fight for freedom to an extent that is only beginning to be comprehended.

It is estimated by the advisory commission of the Council of National Defense that 2,000,000,000 feet of lumber will be used for purposes directly connected with the war in the next 12 months. This amount may be increased as new demands are brought forward. That it will be lessened is highly improbable.

The requirements for army cantonments call for 600,000,000 feet. Provision will be made at each camp

for up to 40,000 men, instead of 25,000 men, as originally planned, it is now understood.

The wooden shipbuilding plan calls for 400,000,000 feet. Regarding arrangements already effected, the special committee representing the Southern Pine Association has issued the following formal statement:

"An order for 100 ships to be sawed by the Southern mills has been placed by Gen. George W. Goethals, general manager of the United States Shipping Board Emergency Fleet Corporation, at an average price of \$35 a thousand feet at the mills. The Southern Pine Association has asked those mills which can do so to manufacture the timbers required for wooden ships, and a large number have bound themselves to furnish complete schedules at the price named for delivery at such shipyards as may be designated by the Government.

"General Goethals has accepted this proposition, to the extent of 100 units (ships), comprising approximately 140,000,000 feet of lumber."

Inquiry today elicited the official statement that 76 of the 100 ships referred to had been definitely contracted for, and that their construction had actually been begun, or that the lumber for their construction was on its way to the yards.

Under the plans for the creation of a mighty air fleet there will be required 25,000,000 feet of lumber. This is based on the estimate of 25,000 airplanes within the next 12 months, and a requirement of 1000 feet of lumber for each airplane.

Some of the other lumber requirements for war purposes are: Structures for training camp purposes for the navy, 200,000,000 feet; aviation school encampments, 120,000,000 feet; Y. M. C. A. buildings at army and navy training camps, 6,400,000 feet; packing boxes and crates for the army and navy, 200,000,000 feet; army wagons, 25,000,000 feet; gunstocks, 10,000,000 feet.

In addition to these larger demands, there will be the requirements of army cots, tent poles, automobiles, artillery, cooperage, furniture, docks and piers, trench lining, saddles, mine timbers, tools, railroad construction and the lumber necessary in building factories to swell the total.

### American Mission Seems to Have Reached Complete Understanding With Russia.

Washington, D. C., June 25—[Special.]—Every indication points to the American mission to Russia, headed by Envoy Root, as having achieved unqualified success.

Beyond the cabled reports of his reception and the character of response to his overtures as given by the accredited spokesmen for Russia, activities in this country for co-operation with the Russian Government tell their own story of a thorough understanding having been reached.

The United States is now making plans for the shipment of great quantities of supplies to Russia by way of Vladivostok. As much as \$1,000,000,000 may be loaned to the Russian Government shortly to build immense piers at that port, and to rehabilitate the finances of the new republic.

Shipments by way of the Pacific will be made to avoid submarine attack. The submarines cannot operate successfully in those waters, as it would require them to be away from their bases for too long a time.

With complete confidence felt in Washington that Russia will again become a militant force in the great struggle now going on, there will be the most active co-operation on the part of this Government in preparing that nation for renewed activities.

Great quantities of railroad construction supplies are to be forwarded. These will go in the care of John F. Stevens, who was the engineer in charge of the construction of the Panama Canal before General Goethals took charge. Stevens is a member of the Root commission, and is handling the engineering side of the mission.

Construction of new railroad lines, co-ordination of supplies and the building of large piers at the port of receipt will devolve largely upon American labor and capital in fitting out Russia for a fresh, and effective entrance into the conflict.

How essentially this dovetails into the general plans contemplated by Russia may be gathered from the statement of Professor Lomonsoff, Railroad Minister with the Russian mission now at Washington:

"Locomotives, locomotives and still more locomotives are the fundamental needs of Russia today," said he.

"Quite frankly I can say to you, our American friends, give us locomotives, and we will give you military success."

According to the same authority, Russia needs at once 1000 10-wheel American locomotives to put her idle cars in operation; another thousand, with an appropriate number of cars, to free the congested freight terminals, and nearly as many more annually to meet the deficiency between manufacture at home and needs for renewal and new construction.

Professor Lomonsoff said that the United States is Russia's hope in this immense program, and spoke of negotiations now in progress as being most promising.

### Food Used in Making Alcohol Would Supply Energy Requirement of 7,000,000 Men.

Washington, D. C., June 25—[Special.]—Consternation, confusion and dissension are terms expressive of the effects said to have been produced in the Senate through the House prohibition amendment attached to the administration food bill.

It is unquestionably true that the favorable alignment of senatorial support for the food bill has been badly disarranged by the prohibition section added in the House.

In many respects the new alignments are peculiar. The support of the "wets" has been disturbed, if not completely alienated, by what they consider a flagrant "rider" on an otherwise highly meritorious measure. Others not extreme in either direction consider the introduction of the prohibition issue in connection with the question of food regulation and control in its larger aspects as injudicious. They would have preferred that the question of war prohibition be considered separately.

Still another element, holding in the abstract to prohibition views, are wondering what is to be done to obtain the \$500,000,000 revenue now obtained from the manufacture and sale of distilled and malt liquors. The situation in their minds is that the passage of the food bill, with the "bone dry" feature attached, will call for an entire recasting of the revenue bill, and that at a time when further delay is undesirable, if not actually dangerous.

The "drys" themselves show division in their ranks. Their differences are directed largely to a consideration of how far the provisions of prohibition shall go. Some are willing to stop short of extreme measures, others will be satisfied if discretionary powers are lodged with the President, while still others demand the most drastic action, not only as to future manufacture, but as to the disposition of the liquors already distilled or malted.

At the present time a hard fight in the Senate seems in prospect. The question is how far the Senate will go in prohibiting the manufacture of intoxicants on the ground that such prohibition is necessary for the conservation of foodstuffs. While it is generally believed that the manufacture of distilled spirits will be prohibited, it is not so certain that the same will apply to wines and malt liquors.

The House measure prohibits the manufacture of all kinds of intoxicants. Many Senators are not willing to go beyond the prohibition of distilled liquors.

The question of the amount of food used in the liquor industry has brought a vast array of statistics to the front, those interested in the industry naturally minimizing the effect produced in decreasing the supply of material available for human consumption.

Figures based on the report of the Commissioner of Internal Revenue for the year ended June 30, 1916, give a total of 3,603,911,916 pounds of grain and molasses used during that year for the production of distilled spirits in the United States. This is inclusive of corn, rye, malt and molasses, and omits the comparatively small use of wheat, oats, barley and other materials, which, however, aggregate 82,150 bushels.

Until very recently there were no official figures available as to the quantities of material used in the manufacture of fermented liquors, but the Department of Agriculture gives figures, based on the records of the office of the internal revenue, to show that the amount of malt, hops, rice, corn, grits, grape sugar, syrup and other materials total 3,004,754,590 pounds used for that purpose during the year ended June 30, 1916.

Combining these figures, we have a total of food items entering into the manufacture of fermented and distilled liquors last year amounting to 6,608,666,506

pounds. Regarding this a board of professors in the department of economics of Harvard University, says:

"In a time of food shortage, when conservation of foodstuffs is an important public question, the more than 6,500,000,000 pounds of food materials which are used in these industries, form an item worth considering.

"It is probable that as much as one-sixth of the total may be necessary for the production of denatured alcohol. At a fair estimate of its calorific or fuel value, the remaining five-sixths would supply the energy requirement of 7,000,000 men for a year."

### SOUTHERN MOSS IN GREAT DEMAND.

#### New and Extended Uses for Picturesque Product of Lower South.

Plaquemine, La., June 23—[Special.]—The high price of cotton and other conditions brought about by the war have had a stimulating effect upon the moss industry in Louisiana. As the prices of cotton soared many manufacturers hunted for substitutes for that staple, and some of them found that moss would serve their purpose. As a result of this situation the demand for moss is constantly increasing and the moss business in this State has reached large proportions. The moss output of Louisiana last year was worth \$2,000,000. This year it will reach more than \$3,000,000.

Four moss factories are located at Plaquemine, operated by Poche & Miremont, E. P. Blanchard & Co., R. I. Schwing and J. D. Thielman. All of the plants are doing a flourishing business. The largest moss factory in the State is located at Whitecastle, La., and is operated by L. B. Babin, who is known as the "Moss King" of Louisiana. Plants are also in operation at Rosedale, Opelousas and several other places in the State.

A new moss factory is being built at Port Barre, La., by the Henry Wilhelm Company at a cost of \$75,000. The Henry Wilhelm Company is backed by Pittsburgh (Pa.) capital, but they will operate the Port Barre plant under a Louisiana corporation.

Moss is an annual crop in Louisiana. It grows wild on cypress, oak and gum trees in the swamps. Production of the crop costs nothing, and the only cost is the process of gathering, curing, ginning and marketing.

The moss is gathered by laborers, who receive from \$8 to \$12 per ton for the product. This nets laborers from \$2.50 to \$5 per day. The laborers gather the moss from the boughs of trees that overhang streams in the swamps. The moss is loaded into skiffs and carried to barges, which are towed to the factories.

At the factories the moss is put through a curing process, and after it is cured it is then put through a gin with teeth like a comb. After it is ginned or combed it is placed in a press and baled, the bales averaging 100 pounds each. It is then ready for the market.

For many years the process of curing moss has been slow, from two to three months being required, but recently the demand for the product stimulated the inventors to activity, and a system has been devised by some of the manufacturers for curing moss within a few days' time.

The demand for moss has become so great that the prices have begun to advance. The selling price now ranges from 5 to 6½ cents per pound, and the indications are that it will go still higher.

Large quantities of moss are used by the automobile factories and the manufacturers of railroad sleeping cars and coaches in making cushions. Manufacturers of mattresses also use moss extensively.

Experiments made during the past few months show that moss will make high-grade ropes, and some of the rope makers have begun to use it for that purpose.

Moss is taking the place of cotton in many articles that require "padding" or "filling." There is also reason to believe that munition manufacturers have found it valuable in turning out war supplies.

### To Manufacture Sulphur Products.

Another sulphur enterprise will be established at Freeport, Tex., the Freeport Chemical Co. having been incorporated for this purpose. The capitalization is \$100,000, and the incorporators are George F. Howard and William A. Vinson of Houston, Christian de Guigne, Jr., of Hillsborough, Cal., and Christian B. Zabriskie of New York. Plant details have not been announced.



# What Prices for Steel Should the Government Pay?

**COST OF MANUFACTURING STEEL PRODUCTS A QUESTION OF GREAT IMPORTANCE AND GENERAL INTEREST—COMPLEX CONDITIONS WHICH MAKE THE ESTABLISHMENT OF A FAIR PRICE EXTREMELY DIFFICULT.**

By EDWIN IRVINE HAINES, New York.

The controversy over prices which the United States Government will be called upon to pay for steel for various requirements for the army and navy has raised the question, What is the cost of steel production? Not only is it one of paramount importance to manufacturers who are users of steel in its various forms, but it is also one of the very greatest general interest at this time. There are many ways in which to view the matter, and considered from different viewpoints various conflicting conclusions may be reached. So narrow a view is being taken by various Government officials and other Washington politicians that light on the subject, however meager it may be, should be welcomed.

The steel companies occupy a somewhat vulnerable position because of the enormous profits they have reaped during the past year, and there is a natural tendency to believe that the country should not be compelled to pay great profits to steel companies or to any manufacturer or dealer at this critical time in the nation's history. The manufacturers themselves were the first to subscribe to this belief, and made substantial concessions in prices of their commodities to the Government.

On the other hand, it is declared that certain Government officials have shown a disposition to exact concessions not warranted either by facts or justice, and if such action is permitted to prevail it is believed that it will stop but little short of confiscation of property. In extenuation of Washington's attitude it is thought that some Government officials failed to comprehend the explanations made to them. At any rate, there appears to be a tendency to mistrust manufacturers' statements concerning the cost of production of various commodities, in the opinion of disinterested engineers and business men, called in an advisory capacity by the Government.

On the one hand, there have been statements made as to the danger of the Government terminating the profits of the steel manufacturers, whereby they would be unable to pay taxes, while on the other hand there has been talk of "cost plus 10 per cent.," which is one thing for a contractor who elects to go into the business of building a cantonment and another thing altogether for manufacturers who have plant investment equal to profits of many years of normal times, and who have lately been making large profits from the sale of steel to ordinary domestic consumers who were glad to pay the price and get the steel. The fair course lies very far from either, because they are very widely separated.

The law requires that prices for the Government shall be "reasonable," but that word must be interpreted in the light of reason. It would be an absurdly narrow view that "reasonable" would be, for example, a discount of 10 per cent. from existing prices. It would also be unreasonable to hold that Government prices should be 10 per cent. above the cost of production, for there is no common ground of cost of production on which the price could be figured, costs varying widely according to the amount of integration, and also to a considerable extent on account of differences in location and equipment of plants.

It has been pointed out by some of the manufacturers who were invited to the Washington conference that in the past six months wages paid to labor have advanced 50 per cent., and during the same period there has been a reduction of 20 to 30 per cent. in the efficiency of labor. This, of course, has added greatly to productive costs, but Government officials thus far have failed to give these facts due consideration.

Attention has also been called to the fact that business conditions today are without precedent. Even in ordinary times no two steel companies have the same costs of production. The Carnegie Steel Co. and the Illinois Steel Co., each a subsidiary of the United States

Steel Corporation and occupying analogous positions, find that costs, because of differences in local conditions, vary widely.

Costs of individual plants are constantly changing. When President Farrell of the United States Steel Corporation, for example, agreed with Secretary Daniels to furnish the navy with steel plates at 2.90 cents and structural shapes at 2.50 cents per pound, it was estimated that cost of production to the Corporation was about \$52.70 per ton, equivalent to 2.27 cents per pound, for shapes. In the past two months, however, productive costs have risen rapidly, and today there is only a narrow margin of profit to the Corporation in these prices, while the cost to several large independent plate manufacturers has increased \$60 per ton, thus netting a loss to them on Government contracts. The Shipping Board, however, insists that the mills take on additional business for steel for cargo shipbuilding that will mean a loss to the manufacturers. It requires small penetration to understand that steel mills which are fully self-contained—that is, those that enter into steel manufacture, including even transportation—must have a lower cost of production than do mills that are dependent upon the open market for iron ore, manganese, coke or pig-iron at a time when prices are rising rapidly.

In ordinary times the cost of converting iron into steel ingots ranges from \$4 to \$10 per ton. The cost is least where molten instead of cold pig-iron is used. Today the cost of conversion is several dollars a ton higher, or about a minimum of \$7 a ton. Where small ingots are cast, the pouring being done from the bottom instead of from the top of the mold, the cost is much greater. To convert ingots into billets the cost usually varies from \$4 to \$16 per ton, the minimum today not being far from \$7.50 a ton. The cost of rolling steel varies according to the amount of gas consumed in the reheating furnaces, and also depends upon whether gas or oil fuel is used.

Steel plates are rolled from slabs, and, of course, slabs are made from ingots. There is a loss of 25 per cent. in steel, due to the necessary cuts from ingots to make the plate. The conversion costs, according to the method used, whether continuous or interrupted rolling is pursued. The minimum cost of conversion today from the ingot to the finished plate is fully \$20 a ton.

The prices now quoted as the steel market must be entirely disregarded. They are fictitious in that nothing like to the total production of steel could be sold at them. They are quoted as the market because they represent the prices governing the sales that are made. These sales are for what, in the present state of the order-books of the mills, are early deliveries. The large mills are sold up on a tonnage equal to about 10 months of their production, and present sales are not made for deliveries later than that. The market "for delivery at mill convenience" has disappeared, and therefore cannot be quoted as the market basis. It was on February 1 that public opinion intimated that we would have to enter the war. Price advances since then have been predicated in large part upon that fact. Prices quoted by the MANUFACTURERS RECORD show an advance of \$36 per net ton since that date, which is a factor that must be considered before one begins to think about what prices the Government should pay for its steel.

No steel manufacturer would think of taking the present fictitious steel market as a standard, and then offering the Government a cut price of 98 cents, or 90 cents, on the dollar, but a certain politician has come dangerously near such a suggestion.

When one carefully considers the facts in the case it can be taken for granted that neither the Government, with the exception of a few obstructionists and such, who do not represent the Government, nor the steel companies desire to take an unfair advantage, and that, approaching a settlement with a mutually fair

purpose, a conclusion will eventually be reached which should be satisfactory to all concerned. Meanwhile tentative prices have been fixed so as to expedite shipments, pending investigation of the question of production costs and fair profit, with a view to determining the final prices. This investigation will reveal many extraordinary conditions in way of increased cost of labor, raw material and operation expenses which could not have been foreseen a few months ago. The advance in materials has been gradual. It did not come suddenly so as to create much excitement at any one time, but it has been none the less steady, and comparisons now with the prevailing prices of a week, a month and a year ago are startling in many instances. Steel sheets, for example, which a year ago were selling at 2.90 cents a pound, last month were quoted at 7½ cents, and for the past two weeks have been held at 8 cents. Galvanized sheets rose from 4.00 cents last year to 8½ cents last month, and are now selling at 9¼ cents. For tank plates, which could have been had in Pittsburgh last year at 2¾ cents, the asking price is now 8 cents, which represents an advance of 3½ cents a pound within a week. Structural beams have gone up 2½ cents to 4 cents at Pittsburgh within 12 months, and so it has been with practically everything on the list of finished or semi-finished steel products.

Many things have successively contributed to the extra cost. First, steel-making iron, which has advanced 150 per cent.; coke, which has gone up 400 per cent.; ore, which has risen about 35 per cent., and labor, which costs more than 50 per cent. in excess of what it did a few months ago. Steel companies are now in the market for basic and Bessemer iron, for which they will pay \$50 a ton for basic and \$55 a ton for Bessemer. This time last year they could have obtained all the iron they required at \$18 and \$21.95, respectively, for basic and Bessemer.

Two extreme and equally unreasonable views have been held. It would be altogether unreasonable to take the maintenance of first quarter profits as a basis from which to arrive at a reasonable alignment for the steel industry. If the Government should buy at the average prices realized on the steel shipped during the first quarter, the steel mills would lose by the amount which production costs have since increased, while on the other hand they would profit by the higher prices to be realized from ordinary consumers, by reason of the business then in force having been worked off, giving place to much higher-priced business. The latter item would overbalance the former; hence if the Government bought at prices that would figure out 2.90 cents for steel products the steel producers would stand to make more money in future than they made in the first quarter. That would be a discount of 46 per cent., or \$50 a net ton, from today's quotable market.

## Building Up a New Oil Distributing Center in Louisiana.

Plaquemine, La., June 23—[Special.]—Taking advantage of natural opportunities, Plaquemine has become one of the most important oil distributing centers in the Southwest. Recently the Southern Oil & Refining Co., with a capital of \$100,000, was incorporated under Louisiana laws for the purpose of building a refinery at Plaquemine. The refinery is now under construction, and will be in complete operation within a short time. The company is owned by local capitalists. A. K. Grace is the secretary of the corporation. The company will operate a line of oil tank barges to transport oil from the fields to the refinery.

The National Petroleum Co. of Richmond, Va., is building oil tanks and a wharf at Plaquemine for loading ocean tank vessels. The company will make Plaquemine a storage base for oil. A "skimming" plant will also be constructed by the same company.

Plaquemine is located at the head of Bayou Plaquemine, which is connected with the Mississippi River by locks constructed by the Federal Government. Bayou Plaquemine runs into the Atchafalaya River, thus furnishing a water route to the new oil fields in South Louisiana. The biggest ocean vessels afloat can land at Plaquemine wharf.

The Le Romp oil field, 30 miles southwest of Plaquemine, near the Atchafalaya River, promises to develop into one of the best petroleum-producing sections of the State. Five oil companies are now drilling wells in that field. One producing well is now in operation, thus making it a proven field.

## New Way of Putting Out Fire of Burning Gas and Oil Wells

OLD NEW YORK FIREMAN, HASTILY SUMMONED TO MONROE, LA., DEFTLY PERFORMS AN UNHEARD-OF TRICK—NEW METHOD WILL BE FOLLOWED UNIVERSALLY HEREAFTER.

[Special Correspondence Manufacturers Record.]

Monroe, La., June 22.

By a simple trick an old New York fireman in a few minutes' time extinguished a blaze that for six days had been burning something like 30,000,000 cubic feet of gas a day and had defied the combined efforts of experienced oil men and conservation officials, who had been summoned here to help in the strenuous efforts put forth to combat the burning well No. 2 of the Ouachita National Gas & Oil Co.

The method the New York fireman introduced will be adopted by the Louisiana Department of Conservation, and instructions along the lines introduced by the man who extinguished the Monroe gas fire will be sent to all gas and oil companies, so that future fires may be fought in an intelligent, efficient and entirely inexpensive manner.

The hero of the occasion is William Guerin, who was formerly a deputy chief of the New York fire department, now chairman of the Fire Prevention Federation of America and chief of the engineering department of the Pyrene Manufacturing Co. of New York.

The Ouachita company's gas well, located 17 miles north of Monroe, came in with a roar while the crew was attempting to make a deeper boring in the hope of striking oil. Saturday, June 16, the gas took fire, and a costly derrick and other buildings in the immediate vicinity were burned to ashes within 15 minutes. The fire defied all efforts of the company's force, and after three days the Pyrene Manufacturing Co. of New York was telegraphed to for suggestions and assistance. This company, after hastily summoning the entire engineering department, immediately dispatched the chief of the engineering bureau, William Guerin, who had been for 24 years connected with the New York fire department, and who had organized the Fire Prevention Bureau of America. Although Guerin had never seen a natural gas well on fire, and did not know whether he could stop the burning gasser or not, he left New York within three hours after the telegram from Monroe had arrived, determined to do whatever was possible under the circumstances to help conserve the country's natural resources, in which he feels that everybody should be interested. He had had experience in fighting fires from gas mains and oil warehouses in New York, and on the three-day trip down from New York to Monroe he went over in his mind all the experiences in that line which he had gone through in New York.

In relating his experiences in the Monroe gas field, Chief Guerin said:

"I arrived at the gasser Friday morning. It could be heard at least a mile away. When I got closer I saw that a column of gas was shooting up from the remnant of the wrecked casing for 20 or 30 feet. It was a blue column, the pressure under which it left the earth being so great that it looked like a liquid. At the top of the column the flame began spearing out in a ball of fire and rising between 150 and 200 feet. There was no smoke—just a clear gas flame.

"It struck me that this was merely a New York gas-main fire on a big scale, and I said to myself, 'Why not tackle it in the same way?' When I said that I might be able to put it out with two streams of water one of the gas company men laughed in a friendly way and said I must be affected by the heat. All that water could do had been done, he said. The foreman said the whole Ouachita River might be pumped in without making any impression.

"I asked the manager, Sam Hunter, to put men behind two shields that they had been using in their hose operations, push the shields to within 10 or 15 feet of the well, raise the pressure in the two seven-eighths of an inch nozzles to 40 or 50 pounds and have the streams played on the base of the well casing so that they converged from an angle of 90 degrees.

"This was done. Then I had the streams slowly raised up to and through the column of gas until they reached the base of the glare. At this juncture the men

who were handling the hose were ordered to squeeze their thumbs against the stream at the nozzles so that the water spread like a fan. They followed instructions.

"Striking the flame where it merged with the column of gas, the water became steam, the roar of which exceeded that of the gas itself. The fire went out like a snuffed candle. The steam had simply cut off the flame from the gas. That's all there was to it.

"The expression of astonishment and delight on the faces of the 40 or 50 men around the well cannot be described. They yelled, cheered, clapped their hands and carried on like demented persons. The whole town turned out to see the man who had extinguished a gas well fire with water.

"They said they had not believed it possible, and I had not been sure of it myself, especially as I knew that the Wild Well of Caddo, in the same State, had burned for three years. It got to be the regular thing for tourists to stop to see the Caddo gusher before it was subdued by the boring of countershafts.

"As a last resort burning oil wells are sometimes dynamited, which puts out the fire but destroys the well. Capping the well to control the flow of gas is a simple matter if the gas is not on fire."

The well has now been throttled by a new valve and brought under control.

The Ouachita No. 2 well is one of the strongest gassers in the field, of which 14 have been bored altogether. The prospectors are after oil, and believe that an oil field will ultimately be developed. Meanwhile, Monroe is expecting a great impetus to be given its industrial enterprises by the advent of natural gas. The municipal plant is preparing to use gas for the generation of electricity for lighting and power and for municipal street railway purposes, and householders generally are making arrangements to use gas for illuminating and cooking. Pipe lines have been laid to the corporation limits, and as soon as pipe arrives from the Eastern foundries the work will be completed. Domestic gas will be furnished at 30 cents a thousand, less 10 per cent., and industrial gas at 10 cents a thousand.

### Tribute to Work of Pyrene Manufacturing Co.

Regarding the achievement of Chief Guerin, in putting out the burning gas well at Monroe by methods heretofore unknown in oil fields, the Pyrene Manufacturing Co. wired the following response to an inquiry by the MANUFACTURERS RECORD:

[Special Dispatch to Manufacturers Record.]

New York, June 26.

Gas company wired Pyrene Manufacturing Co. asking for help. Our entire engineering department was hastily summoned to discuss problem. Chief Guerin, head of this department, which was organized primarily to help manufacturers reduce fire waste, left for Louisiana a few hours after we received their telegram. Consider it great tribute to work done by our engineering department, under direction of Chief Guerin, that we were appealed to after all other efforts failed and were successful in putting out this fire.

PYRENE MANUFACTURING CO.

### Unparalleled Help to Contracting Business.

A. JANUTOLO & Co., Fayetteville, W. Va.

Copy of the MANUFACTURERS RECORD has reached us. It is of unparalleled help to the contracting business. We cannot but congratulate you for the wide publicity you have given the Liberty Loan, as well as for your impartial and patriotic stand in this greatest crisis ever faced by the United States of America.

We are enclosing you herewith check for \$2 covering subscription for six months.

### \$44,900,000 INCREASE OF CAPITAL.

#### Big Plans for Future Growth of Oklahoma Electric and Gas Demands.

An increase of capitalization to the amount of \$44,900,000 has been decided upon by the Oklahoma Gas & Electric Co., Oklahoma City, in connection with extensive plans for the future growth of Oklahoma with a special reference to the growing demand for electricity and gas for lighting, power and other industrial purposes. This corporation has been capitalized at \$5,100,000, and has increased this to \$50,000,000. Its engineers and managers are H. M. Bylesby & Co. of Chicago, who wire the MANUFACTURERS RECORD outlining plans and stating that the additional capitalization will provide for extending operations throughout the State and for future contingencies on an extensive scale, including the construction of additional electric stations and transmission systems.

The Oklahoma Gas & Electric Co., heretofore serving Oklahoma City and El Reno, is acquiring the Enid Electric & Gas Co. and the Muskogee Gas & Electric Co., which already owns the Sapulpa Electric Co. It has acquired new properties at Norman, Yukon, Drumright, Hennessey and Kiefer. The company will construct transmission lines to tie in these and probably other communities to centrally located power stations, including certain extensions to enter Cushing and Glenpool oil districts, where electric power is widely used for pumping wells. Power productions capacity will be increased at Muskogee and elsewhere as rapidly as necessary to serve increasing demands. The financing consists of \$2,250,000 two-year 6 per cent. gold notes, which will retire floating debt, including purchase of properties, and retire \$228,500 debenture bonds and furnish funds for extensions and improvements. The various properties have successful records and now serve 43,000 electric and gas consumers.

#### Old Salt Industry to Be Revived Near Manchester, Ky.

Manchester, Ky., June 23—[Special.]—The salt industry, which first established the town of Manchester, the county-seat of Clay county, an industry abandoned over half-century ago and which flourished before the Civil War, is to be re-established by Eastern financiers who have taken a lease upon the properties and are making active preparations to begin the work at once. It is said that the new work will give employment to several hundred men.

The revival of the salt industry brings to mind activities of pioneer days, long before railroads came into this section, when people carried the product for hundreds of miles across the mountains into adjacent sections of Kentucky, Tennessee, Virginia, North Carolina and Ohio. The inhabitants of several adjoining States depended upon the historical old salt works of Manchester supplying the much-needed product. Finally the works were abandoned, and Saltville in Virginia as well as other concerns began producing salt.

Manchester was last year connected by railroad with Barboursville through the Cumberland and Manchester branch of the Louisville & Nashville. A rich coal field immediately surrounding Manchester is soon to be developed on an extensive scale.

#### Fort Worth Rolling Mill Takes Over Iron Works.

Fort Worth, Tex., June 22—[Special.]—The Texas Rolling Mill Co. and the Osage Iron & Steel Co. have merged their rolling mills and iron works into a new corporation called George W. Armstrong & Co., Inc., of Fort Worth, Tex. The new company was created by an amendment to the charter of the Texas Rolling Mill Co., which also filed an amendment increasing its capital stock from \$240,000 to \$650,000. The plant the Osage Iron & Steel Co. turns over to the new corporation is situated at Sand Springs, Okla. Although no official announcement has been made as yet of the plans of George W. Armstrong & Co., Inc., it is understood that extensive improvements and possibly enlargements are to be made to the plant here as well as to the one at Sand Springs.



# War on Germany Righteous War, Say British Baptists

ENGLAND AND HER ALLIES ARE FIGHTING FOR CHRISTIANITY AGAINST PAGANISM, FOR HUMANITY AGAINST WORKS OF THE DEVIL.

[From Baltimore Daily News.]

At the request of the British Government Publicity Department, the Baptists of Great Britain, through a committee appointed for that purpose, have sent through Richard H. Edmonds, editor of the MANUFACTURERS RECORD of this city, "A Message from the Baptist Union of Great Britain and Ireland to the Baptists of the United States of America." This message was signed on the part of the Baptists of Great Britain and Ireland by W. Y. Fullerton, president of the Baptist Union of Great Britain and Ireland; John Clifford, ex-president of the Baptist World Alliance, and J. H. Shakespeare, secretary of the Baptist Union of Great Britain and Ireland and European secretary of the Baptist World Alliance.

Through personal friendship between Dr. Shakespeare and Mr. Edmonds, the message was forwarded to the latter with the request that he undertake to have it printed and distributed in the United States.

Mr. Edmonds immediately cabled that he would comply with the request, and advised Dr. Shakespeare that while he appreciated the offer of having the expense of publication and distribution taken care of in England, he would be glad to personally assume the cost of handling the matter in this country, as he felt that both the English Baptists and the English Government had been bearing burdens enough.

This message has now been put in pamphlet form and is being mailed to 19,000 Baptist ministers throughout the United States whose addresses have already been secured, to every Baptist publication in the United States, to the President and members of the Cabinet, to every member of Congress and to others likely to be interested.

In his personal letter to Mr. Edmonds, Dr. Shakespeare in explaining the request from the British Government Publicity Department, said it was thought that it would be of value for the Baptists of the United States to fully understand the attitude of the Baptist churches of Great Britain to the moral issues of the war, and particularly if the story of the war were presented in such a way as to explain why British Baptists, with their pacific traditions, felt that there was no other way for Great Britain but the way of war. The matter was immediately brought before the council of the Baptist Union of Great Britain and Ireland and a committee was appointed to prepare the address.

After reviewing the efforts of Baptists throughout the world in all the past to maintain peace, this message says, in part:

"We never met in Congress, European or world-wide, without asserting our desire for the cessation of all war, the settlement of international disputes by arbitration and the universal reign of peace. One of our primary interests when we met in Berlin was to 'ingeminate peace,' for already we were shadowed by fears and misgivings. The same purpose stood out in our proceedings in Stockholm, and the memorable gatherings in London and in Philadelphia were dominated by the same passionate yearning for brotherhood and good-will.

"Like you, we British Baptists hate and loathe all war. We are, and always have been, advocates of peace. Indeed, we have never unsheathed the sword whilst it was possible to keep it in its scabbard, and if any other way had been possible for us we should not have taken it out in August, 1914. But there was no other way.

"It is indisputable that not only was Germany preparing for this world war in her own boundaries, but was always endeavoring to create occasions of war with a persistence and a subtlety that filled all lovers of peace with apprehension and despondency."

Giving in detail some facts in regard to the efforts of Germany to provoke France into war, and the effort of Great Britain and France and other countries to maintain peace, this message says that "in

1896 the Kaiser formed his alliance with Abdul Hamid, the cruel murderer of the Armenians, arranged for the Bagdad railroad and took the Moslem world under his protection. All through these years our Government was doing whatever it could to avoid war. At The Hague Conference England labored most strenuously to secure a limitation of armaments. We saw the peril of the increase that was going on from year to year, and our people backed the appeal in every way they could. But no, Germany would have none of it. On the contrary, the appeals for reduction were met by an enormous extension of shipbuilding on the one hand and a vast increase of the land forces on the other. \* \* \*

The real situation was summed up by the German Staff in 1914 in the words, 'We shall smash France in three weeks, then wheel about and deliver a knock-down blow to Russia before she has time to complete her mobilization. Belgium will offer only the resistance of sullenness. England will not come in at all.' Thus they planned to subjugate Europe to the German scepter. \* \* \*

"It is an indisputable fact that our Government did all that it could to allay the storm and preserve the peace of the world. But the German Government had made up its mind, and the neutrality of Belgium was deliberately violated. That action swept us at once over the barriers between peace and war. It was a flagrant violation of law. It was a wrong done to the soul and to the homes of a small nation, a scornful and contemptuous tearing up of a solemn compact in the face of Europe, cynically described by the German Chancellor as a 'scrap of paper.'

"A wave of moral indignation spread through the land. We were compelled to act, and to act in one way. It was the one duty. It was the will of God. We dared not hold back. England would have lost its soul if it had allowed the brave 'little one' to be crushed out of existence by the perfidious Kaiser and his military lords.

"Immediately we were a united people as we rarely have been before in our long history. There has been nothing like it in the churches; certainly not among our own people. Thousands of our young men rose with spontaneity and resolute daring to offer the great sacrifice of their lives for the cause. Our workers, Sunday-school superintendents and teachers, deacons and leaders rallied to the flag as to a most holy task. Many of our ministers volunteered as chaplains and are acting as such. Our Young Men's Christian Associations rendered a magnificent service. The women of our churches were as keen and eager as the men. In short, the nation is one.

"Five million and forty-one thousand men voluntarily enrolled themselves in the army before conscription. They could not hold back; the call was of God, and they must respond. It was a question of conscience. We are fighting for Christianity against Paganism, for right against cruel might, for liberty against tyranny, for humanity against the works of the devil.

"And the course of the war, in spite of our unreadiness to meet its demands, and our mistakes and errors, has completely vindicated the solemn responsibilities we accepted nearly three years ago. Nothing has so completely, so scarifyingly exhibited to us the awful, tragic, tremendous, unaccountable and unimaginable horror of war. Had it not been demonstrated to the world how the Germans have made war during the last two years and nine months, we should have said it could never have happened, men could not be so debased, so brutal, so absolutely diabolical as they have been. But it has happened. The record before us is an unveiling of war such as has not been seen since the sack of Antwerp and Magdeburg. We might even go much

further back than that, and say such a revelation on the part of individuals supposed to have some culture, some training, some humanity, men never saw. Germany has aroused the abhorrence of the whole civilized world. She began by trampling law and treaty under foot in the violation of the soil of Belgium; then staggered humanity in the destruction of Louvain and Rheims; aroused indignation by slaying non-combatants, women and children, at Scarborough; sent out a cold-blooded decree that made the killing of non-combatants not an incident of heated warfare, not an accident, no, but a regular method of obtaining military advantage, and sent a thousand innocent people to death in the Lusitania.

"It is because we are seeking to bring this calamitous reign of barbarism and savagery to an immediate end that we hail with profound thankfulness and boundless hope the entrance of America into this European war. It is a mighty event for you and for us.

"We are inclined to say of it what Charles James Fox exclaimed of the Fall of the Bastille, 'How much the greatest event in the history of the world, and the best!' The revolution of 1789 has been wonderfully reproductive in its fruitfulness; but the revolution in the policy of the United States in 1917 will abound immeasurably more in the sum of good that will issue from it to the whole world.

"Already it has fed our faith in the justice of our choice and the purity of our motives. Our faith is confirmed. We were sure that we were in the one and only right way at the beginning, but your action has developed and perfected our confidence, renewed our patience and inspired us to further sacrifices on behalf of the vital human causes at stake. We go forward with a stouter heart and a bolder step, resolved not to submit or yield until the foe is overcome.

"Nor can we fail to see that your intervention has burnished and brightened our ideals, set out as they are in language of lofty eloquence and crystal clearness by your President, and sent us forward assured that we are not only on the right path, but that we are going to victory, righteousness and peace. The peace we seek is all the nearer for your action; it is certain that you will shorten the period of the war, for you bring to our aid the greatest resources of power left in the world, and that in the critical hour of our need.

"Nor can we doubt that the presence of America will be a guarantee for a real and abiding peace, and for the abolition of war once and for all from the category of human crimes. It will translate us from the diplomatic atmosphere and the doctrine of 'the balance of power' to a 'League of Nations,' based on the final extinction of absolutist autocracies and the co-operation and partnership of nations. Your entrance into this war feeds the conviction that, in spite of all that is disastrous, it will achieve great and lasting benefits for mankind, and add to the moral health and happiness not only of America and the Allies, but of Germany and of all other peoples. It will check the growth of militarism and secure the reduction of armaments. It will make the world, in the fine phrase of your President, 'safe for democracy,' secure the ideal of Lincoln, the government of the people, by the people and for the people, and establish the rights of the individual to a free and full expression of his nature. It will serve to work out plans for social reconstruction in every country, for Poles and Serbs, for Roumanians and Britons; provide for the natural expansion of peoples as well as the settlement of disputes; maintain good faith and uphold public law among the nations. We are stronger because you are at our side, and we shall march with surer feet and braver hearts because we march together to the new heavens and the new earth in which righteousness and peace shall dwell, not as occasional visitors, but as perpetual guests."

## "South's Greatest Asset."

JOHN A. GRAHAM, President Graham Investment Co., Bradentown, Fla.

Enclosed find check for \$4, for which please send the MANUFACTURERS RECORD to me at Bradentown, Fla., for one year. I regard the MANUFACTURERS RECORD as the South's greatest asset.

## First Unit of \$5,500,000 Steam Plant Erected for Alabama Power Company

[Special Correspondence Manufacturers Record.]

Birmingham, Ala., June 23.

The first unit of the new steam power plant erected by the Alabama Power Co. as an auxiliary to the hydro-electric plant of the company will be in operation in a few weeks.

The plant is situated at the point of confluence of Baker's Creek with the Mulberry fork of the Warrior River, which is approximately 25 miles from the city of Birmingham. This point was selected by the company on account of the fact that it is in the heart of the Warrior coal fields, and there is abundant cooling water for condensing purposes.

The ultimate capacity of the plant will be 75,000 K. V. A. At present the company is installing one 25,000 K. V. A. steam turbo-generator, and the second is under order to be installed during the summer of 1918. The cost of the initial installation will be \$1,850,000, and the cost of the ultimate installation will be approximately \$5,500,000.

The building is of brick and steel construction, with an overhead concrete coal bunker which will have a capacity of 800 tons per day.

The equipment of the initial installation consists of six 1200-horse-power Stirling boilers, made by the Babcock and Wilcox Company; five underfeed Westinghouse stokers, made by the Westinghouse Electric & Manufacturing Co.; one double type E stoker, made by the Combustion Engineering Corporation; one double Cochran heater, made by the Harrison Safety Boiler Works; one 25,000 K. V. A. steam turbo-generator connected to a low level Westinghouse Le Blanc condenser, made by Westinghouse Electric & Manufacturing Co. Steam pressure will be at 225 pounds, 125 degrees superheat. Generating voltage will be 600 volts.

Open-ground storage will be used for coal, and coal-handling apparatus will consist of a traveling bridge over the storage pile, and a belt conveyor to the overhead bunker. The storage pile is so laid out there will be possible ground storage of 90,000 tons. Coal is supplied from a mine situated a quarter of a mile from the steam plant.

A feature of the development is the character of the operatives' houses, which are of hollow tile and plaster construction.

There is an increasing demand on the Alabama Power Co. for electric current for lighting and power purposes. A fifth unit is being added to the hydro-electric plant on the Coosa River, which will make a total of

92,500 horse-power generated at this point. In addition to serving municipalities and existing industries, such as coal-mining operations, cotton mills, etc., it is the policy of the company to encourage the location of new industries. Conspicuous in this line are the plants of the Anniston Ordnance Co., the Anniston Properties Co. and others, in addition to which are a number of other projects under negotiation, an announcement of the locations of which are expected in the near future.

### Kentucky's Oil Field Attracting Wide Attention.

Whitesburg, Ky., June 25—[Special.]—Kentucky's oil field is attracting the attention of operators throughout the country, and in nearly every section of the State drilling and preparations for drilling are under way. Oklahoma, Pennsylvania and West Virginia have representatives in the Kentucky territory. In some instances rich strikes are reported. The counties of Bath, Rowan, Magoffin, Greene, Morgan and Wolfe all show up rich in oil properties, while Letcher, in Perry, Knott, Pike, Floyd, Johnson, Breathitt, in the eastern section of the State, the coal fields territory, and a number of counties in central and western Kentucky a large number of test wells will be sunk within the next few weeks. A few days ago near Salyersville, in Magoffin county, new territory, a rich flow of several hundred barrels daily was struck by N. P. Howard. Numerous other tests are being made in Magoffin and Morgan counties, along Licking River. Further down on the Licking River several good producers were struck during the later half of May.

The Kentucky Producers' Oil Co., lately organized by Oklahoma people, with offices in Winchester, Ky., has closed leases on a large area in Breathitt, Perry and Letcher counties, and makes the announcement that drilling for oil is to be started by July 1. The bulk of the tests will be along the North and South forks of the Kentucky River. In Estill and Lee, the former county being the center of attraction in the State, a dozen or more rich flows have been struck within the past few days. Adjacent territory in Clark county, along the Kentucky River, has also been taken up, where new extensions are to be made during July. It is the consensus of opinion among experienced operators who have been attracted to the Kentucky field

that this State is destined to become one of the leading oil-producing sections of the United States.

The Standard Oil Co. is spending several million dollars in the construction of pipe lines and the building of a refinery near Irvine, the center of the field in Estill county. A number of other extensive corporations are active in the field.

The Elk Horn Gas Coal Mining Co., having an extensive coal operation on Beaver Creek, will shortly harness a rich flow of gas recently struck in that section. Oil in paying quantities has been struck at a number of points along Beaver Creek, the territory reached by the Cumberland pipe line. Martin, another extreme Eastern Kentucky county, is making some extensions in developments of both oil and gas. The pipe line passes through the center of that field.

The Banner Oil Co., recently organized at Ashland, has increased its capital stock from \$10,000 to \$25,000 and will start developments in Boyd and Lawrence counties.

The Ashland Oil Co. is another new corporation just organized at Ashland by T. A. Null, J. M. Wilkinson, Chas. F. Higgins and others with a capital of \$10,000. The new company will drill a number of test wells in Boyd county, leases having been made.

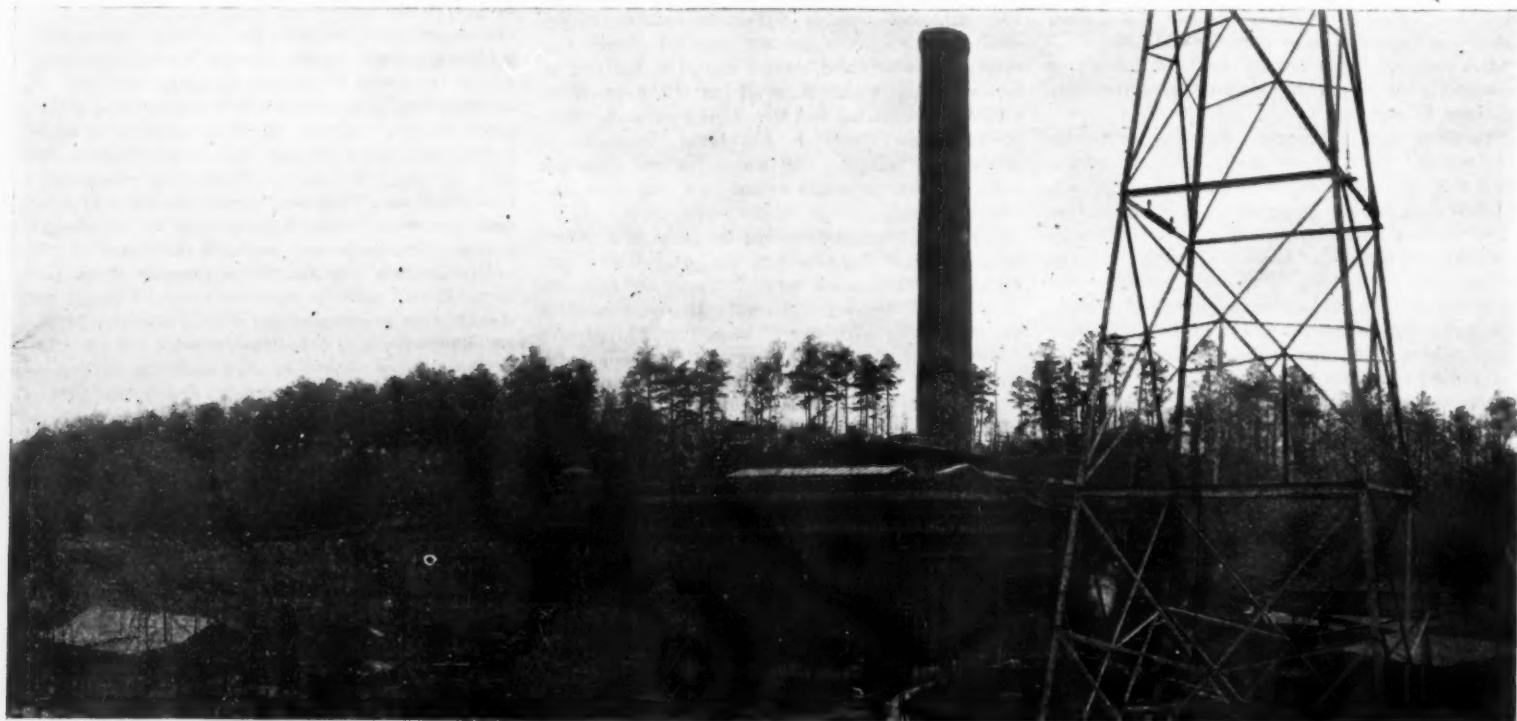
### Big Contract for Gadsden Factory.

One hundred thousand pairs of khaki foot infantry breeches and 24,000 pairs of overalls will be manufactured for the United States Government by the North Alabama Manufacturing Co. of Gadsden, Ala. This order has been given with provision that the overalls be delivered by August 15 and the trousers by December 31. In order to expedite the delivery of these products the Gadsden company finds it necessary to install 50 additional machines, and has ordered this new equipment with the probability of adding 50 more at an early date. Fifty additional operatives will be employed, to be followed by another fifty.

### To Drain 528,000 Acres in Florida.

Plans are under consideration to provide funds for actual construction, probably by bond issues, of the system for the Napoleon B. Broward Drainage District, with permanent headquarters at Fort Lauderdale, Fla. A. L. Joiner has been elected secretary of the district, and H. C. Davis is the engineer for the Broward county commissioners.

The district includes 528,000 acres, nearly all within the Everglades, suitable for cultivation when the reclamation is completed.



FIRST UNIT OF \$5,500,000 AUXILIARY STEAM POWER PLANT FOR ALABAMA POWER CO.



# The Magnitude of Our Task

IS THE REASON WHY WE MUST AWAKE TO OUR DANGER AND FIGHT TO  
SAVE OUR WOMEN AND CHILDREN.

RICHARD M. HURD, Trustee of American Defense Society, in Tampa Times.

André Charadame's article in the June Atlantic, "The United States and Pan-Germanism," will come with a shock to Americans now somewhat complacent over the beginnings of military preparations. Two months ago the general opinion in America was that Germany was weakening, having begun a retreat on the west front, having lost Bagdad and with the Allies pressing on all sides. Since then the alarming successes of the German U-boats, the collapse of Russia, the grave statements made by the French and British missions have given warning of the desperate character of the struggle before us. It has remained for Mr. Charadame to enlighten us as to the real scope of the war and its bearing on our participation. Mr. Charadame's article presents the same argument which is stated at length in his book, "The Pan-German Plot Exposed"—perhaps the most important book written on the war. Contrary to general opinion, the real objective of Germany's war aims is not expansion east or west, but the seizure of the Orient, together with the contiguous territory lying between Berlin and Bagdad. Germany has conquered and absorbed her pseudo-allies, Austria-Hungary, Bulgaria and Turkey, more thoroughly than she has conquered and absorbed her enemies, Belgium, Poland, Serbia and Roumania. Germany started the war with 68,000,000 people, but now controls in both a military and economic sense 176,000,000 people. To quote Mr. Charadame:

"This is the brutal, overwhelming fact which Americans must face if they wish to learn the sole solution of the war which will assure to them, as well as to the rest of the world, a durable peace.

"Seventy-three million Germans rule over 21,000,000 vassals and 82,000,000 slaves, who are bearing the most cruel and unjustifiable yoke that the world has ever known. It is undeniable, moreover, that each extension of Prussian militarism over a new territory has enabled Germany to prolong the struggle by obtaining new supplies of food, new reinforcements to press into her service and territory to exploit, new civil populations, whose labor is made use of even in works of a military nature. \* \* \* The annual levies of men from the various territories of Pan-Germany certainly outnumber the losses sustained each year by her troops. \* \* \* We may safely say that never before has the Berlin Government, from a military point of view, been so strong."

This amazing situation is certainly not understood by the American people. What answer can America make? First let us grasp intellectually and thoroughly the Pan-German plot in all its bearings. Next let us summon to our aid two motive powers which have not yet been enlisted—fear and hatred. Mr. Charadame says:

"If Germany achieves the ruin of the Allies it is entirely probable that the general staff of William II would launch a formidable expedition against the United States without delay in order to allow her no time to organize herself against the Prussian tyranny."

Obviously a German expedition landing on our shores would sting into action every American, man, woman and child. Let us realize that such an expedition is possible, and, if the Allies weaken, is quite certain to come.

Our task is to summon the same determination to fight as would be roused by the sight of spiked helmets landing on Long Island. Righteous hatred should be allied to fear. Let us refute the insidious campaigns of the half-hearted and half-witted, the pacifists and the pro-Germans who counsel that we should fight without hate or bitterness. If there ever was a time in the history of the world when hatred was morally justifiable, now is the time. Shall we not hate the predatory nation in arms, passionately one with the Kaiser and the general staff, all equally obsessed with the megalomania of imperialism and Pan-Germanism—who condemn to death the flower of the youth of France, England and America? Shall we not hate the venomous Prussians who put out the eyes of helpless Belgians with a red-hot iron (Belgian official report), who carry in their pockets as souvenirs the hands of little children which they have cut off (Belgian official report), who publicly violate women in the market places of Belgian

cities (Bryce official report), who crucify Canadian soldiers, who commit nameless mutilations on the Red Cross doctors, who admit the wholesale slaughtering of innocent hostages, and the list of whose devilish crimes screams to heaven? Not to hate such acts and those who commit them would be to morally condone the vilest cruelties which have ever irreparably stained the name of a nation. Every justifiable basis of both fear and hatred exists to rouse America to the implacable determination that, at the cost of her last man and her last dollar, Germany must be destroyed.

Since war has been declared by America much has been begun in Washington, despite confusion and divided counsels due to urgent haste. In addition to existing plans a deeper apprehension of possibilities should bring a larger vision of the part America must take in the war. The President has been authorized to call out 4,000,000 men, but it does not yet appear that this number is to be actually trained, equipped and sent to France. Our total strength of military age would be about 15,000,000 men, of whom perhaps 5,000,000 to 10,000,000 may be necessary to win the victory. If we adopt the larger concept of the numbers necessary, this involves corresponding increases in heavy and light artillery, shells, rifles, ammunition, aeroplanes, motor trucks, food, clothing, horses, ships and their naval defenders, engineering and medical supplies and all the vast equipment required in modern war.

England started with a small concept of the war, and only after two years realized in the words of the London Globe that "we must slay or be slain." Can American intellectually grasp the ultimate need and realize now that we also must "slay or be slain?"

## LYNCHBURG'S LEADING POSITION AS OVERALL FACTORY CENTER.

With Expansions Under Way, Output Will Be  
4,000,000 Pairs of Overalls Per Annum.

Lynchburg, Va., June 23—[Special.]—Already a large manufacturer of overalls, Lynchburg, is soon to increase its annual output of overalls by 1,000,000 pairs, ground having been broken a few days ago for the new plant of the Jobbers Overall Co., Inc. This plant alone, exclusive of machinery and equipment, is to cost \$70,000, and is to be constructed entirely of concrete and steel. The new plant complete will represent an investment of \$100,000.

The present plant employs about 300 hands, and is turning out 1,500,000 pairs of overalls each year. In the new plant, which will be completed and ready for occupancy in October, 500 hands will be employed and the annual output will be 2,500,000 pairs.

The plant is to be equipped throughout with new machinery of latest design. Orders have already been placed for 480 new machines.

The present plant each year consumes 5,250,000 yards of denim, 500,000 yards of pocketing, 500,000 yards of elastic for suspenders and 16,500,000 buttons in the manufacture of the 1,500,000 pairs of overalls. An average of 80 yards of thread is used in the production of each pair of overalls. The yearly consumption of thread is 120,000,000 yards, or over 68,180 miles, enough to reach around the world almost three times.

A great portion of the 500,000 yards of pocketing used in making these overalls is a Lynchburg-made product, being manufactured by the Lynchburg Cotton Mill Co.

The Jobbers Overall Co., Inc., was started in Blackstone, Va., with 14 employees. The plant was moved to Lynchburg through the channels of the Chamber of Commerce in 1911, and since that time its output has been steadily on the increase. Up until the past two years the greater portion of the output of the Lynchburg plant has been marketed in the South. The company is now an extensive advertiser, and it is finding a good market for its goods in the North and West.

Through the efforts of the Lynchburg Chamber of Commerce a company has just been formed to take over the patent rights of the N. & W. Manufacturing Co.,

which closed down some months ago. This new concern; it is stated by Mr. Barrow, president of the Jobbers Overall Co., Inc., will occupy the old plant of his company as soon as they move to their new establishment. It is planned to run this plant at full capacity, which will give Lynchburg a total annual output of 4,000,000 pairs of overalls.

## Building and Industrial Activity at New Bern.

New Bern, N. C., June 20—[Special.]—The Chamber of Commerce is promoting the organization of the East Carolina Packing Co., with \$100,000 capital, to build a meat killing and packing plant. A daily capacity of 100 to 150 hogs and 25 cattle is planned, about \$65,000 to be the cost of the initial buildings with mechanical equipment. The C. L. Brooks Engineering Co. of Moultrie, Ga., will probably be the engineer.

The leading business men of New Bern and East North Carolina are backing the movement, and there is no question of its success.

In 16 counties surrounding Craven, of which New Bern is the county-seat, according to the census of 1910 there were 339,000 hogs and 83,000 cattle.

There are large areas of idle and cut-over timber lands in this section which can easily be adapted to the raising of hogs and cattle. Craven county is rapidly being freed from the cattle tick. The county made an appropriation of \$5000 for this purpose, it being the largest appropriation made in North Carolina by any county for this purpose.

Within the past eight months New Bern has made rapid strides industrially. It organized the Gum Panel Co., capitalized at \$40,000, employing 65 people with a monthly payroll of about \$2000, to make a high-grade veneering.

The Morris Plan Co. of New Bern has been organized with a capital of \$40,000 to make industrial loans.

The Scott Register Co. has been reorganized and its capital increased by adding \$10,000. It makes an accounting system and also manufactures a patented refrigerator.

New building includes three-story brick annex to department store of S. Coplon & Sons; Coca-Cola Bottling Co., new bottling plant; Home Telephone & Telegraph Co., two-story brick building for offices and operating department; New Bern Cotton Oil & Fertilizer Co., enlarging plant; warehouse and dock for Virginia-Carolina Navigation Co., which will next month commence the operation of a line of steamers from this port to Baltimore and Norfolk; Gaston Hotel, three-story annex.

Craven county is paving 27 miles of roads with brick.

## Additional Baltimore Shipyard Contracts.

The Baltimore Dry Docks & Ship Building Co., has awarded additional machinery contracts in connection with its plans for another shipyard. These new contracts are as follows: Bridge cranes, Manning, Maxwell & Moore of New York; electric motors, General Electric Co. of Schenectady, N. Y.; transformers and rotary converters, Westinghouse Electric & Manufacturing Co. of Pittsburgh; accumulators, hydraulic pumps and boiler-shop tools, R. D. Wood Company of Philadelphia.

Last week the MANUFACTURERS RECORD announced that the Baltimore corporation had awarded contracts for most of the construction and machinery for this new plant, recently reported planned at a cost of \$2,000,000. The Belmont Iron Works of Philadelphia will construct the steel buildings. The tools will be furnished by Hilles & Jones of Wilmington, Del.; the Cleveland (O.) Punch & Shear Works, Manning, Maxwell & Moore, and the Niles-Bement-Pond Company, both of New York; air compressors by the Ingersoll-Rand Company of New York, and two locomotive cranes by the Industrial Works of Bay City, Mich. Day & Zimmerman of Philadelphia are the engineers for the additions, and Otto G. Simonson of Baltimore is the architect for the office buildings and storehouses. It is expected that the new plant will be completed by December. The shipyard company is understood to contemplate constructing four or five shipbuilding berths for vessels up to 600 feet long and of 15,000 feet gross tonnage, with future plans contemplating the construction of drydock facilities to include a floating drydock and the building of a railroad tunnel to connect the present plant with the new yard.

## Parade of Old Confederate Soldiers As Described in a Northern Paper by a Northern Writer

RICHARD J. BEAMISH, Staff Correspondent, in Philadelphia Press.

I have seen an army of ghosts today.

Gray as graveyard mist it was and slowly as graveyard mist it drifted past.

Some of it was blue-gray, with patches of black. Some was dead-gray, the parchment grayness of the old man's face. This part was streaked and striped with buff.

No more pathetic spectacle ever has been witnessed in Washington than that which unfolded and dissolved like a dream this morning. Like a dream it will remain in the memory of those who looked with seeing eyes, a dream in which human sacrifice was viewed through a veil of tears.

From all parts of the South they came, these who gave their all to follow Jefferson Davis and his generals in their unavailing effort for secession. Above the creeping, death-gray line flew the rebel Stars and Bars. Rebel battle flags that had flashed forward to victory at Bull Run and that had been driven from Pennsylvania soil at Gettysburg showed their shell-torn tatters through protective webs of silk as they were lifted high above the stooping ranks. But beside the cross-barred flag floated Old Glory and upon the withered chests of the men in gray gleamed the tricolor that spells both France and America.

No inauguration procession within the memory of Washington brought forth enthusiasm that compared at all with that which swept over the hundreds of thousands who saw the thin gray line today.

It had no shimmer of gold lace, no rich investiture to vie with hundreds of parades that this city of gorgeous spectacles has known. But it did have more poignant humanity, more direct appeal to the American heart than all the processions that have preceded it.

Every rank had its distinctive note. Every little gray group held a cheer-compelling or a tear-compelling motive.

Never can I forget that last rank of the Arkansas division. We were waiting opposite the President's stand fronting the White House. There was the usual flutter of rebel flags, the usual applause as the fine, old commanders of the division on their sedate livery horses paced by. Then came the ranks on foot. Clad in the peculiar death-gray of the Southern backwoods, they came with the slow, silent movement of oncreeping age. Almost involuntarily my eyelids narrowed to get the full effect of the drifting gray haze.

As it crept up to the stand the fog resolved itself into its human elements. Faces made noble by war-time sacrifice and by hardships nobly endured stood out softly in the mist, each like a Moses carved from cloud by a Michael Angelo. Never had I seen such fitting of leonine mane and beard to the human countenances as in the rank that came last. Never have I seen such majesty of Americanism as in the slow, loving salute with which they turned their faded eyes and withered hands toward the President. It was an expression of eternity, of the unquenched and unquenchable spirit that, please God, will hold America together while life lasts.

But the unforgettable feature of that rear rank was not the faces carved from cloud, nor yet the majesty of its salute. It was a plain old woman of the Arkansas backwoods at the end of the line, near the President. Little and bent, she was, in all rusty black.

Her black bonnet was of another era and her dress was of no recognizable period, but no woman in all Washington, not Mary Custis Lee, who combines all the bloods for which the South gladly faced death, not the beautiful wife of the President in her modish and becoming raiment, nor any other woman in or out of the long parade, received half the attention or one-tenth of the honor that followed the little, old woman of Arkansas.

For she walked with her hand in that of her dauntless lover. Close to 90 was he, and feeble almost unto death, but the spirit that rode with Stuart kept him moving slowly, painfully, steadily on. His weariness was such that his head fell forward upon his chest. It

was only by the full force of an imperious and unshaken will that he lifted his eyes from the cruelly hot asphalt to salute with a heart-breaking effort at old-time gallantry the President of the United States. Every step took from him hours of life, but he pressed on and on.

The little woman in black steadied him when he faltered and he took her arm up the gentle slope of the hill opposite the Treasury building. During the mercifully frequent halts she fanned him with a crumpled newspaper, whispering low to him as she did so. Then the command to resume the march came. She took his hand and on she drifted with her man, a black edge to the fog of living gray.

Hundreds of helpers besides the little woman in black were among the 10,000 in the slow, gray line. Daughters and sons were there to lend cheer and helpful arms to men who were dare-devils in the great struggle marched with firm steps, but these were plainly the drummer boys in the days of the sixties. Thousands in line the school lads of the Confederacy.

Gaily-decked automobiles with Southern women waving Confederate flags and the allied colors of this new-made war of ours were gay spots in the procession. Sons of the Confederacy in gray and some in khaki were quickly moving portions of the various divisions. More than 30,000 all told were in the remarkable parade.

Last night a violent rainstorm swept over the tent village on the Capitol plaza, compelling those who were eating to climb up on the mess tables and making tented space a quagmire. The poor, old fellows were forced to sleep in these unwholesome places all night, and they did so without a murmur. It was Manassas and the Wilderness over again, and by the Great Horn Spoon they liked it. You see, 80 isn't so old when you get down to hard pan.

Just to show how they felt about the little affair into which we have just entered they carried banners, "Damn a man who ain't for his country, right or wrong."

"Call on us if the boys can't do it."

"We'll go to France or anywhere you want to send us."

While the slow, gray drift was still passing the President a sudden, fierce rainstorm broke, drenching those in line and most of the hundred thousand onlookers.

The beribboned automobiles streamed out of line for shelter. The cadets broke rank and ran. The horsemen urged their patient mounts to cover, but the old fellows in gray drifted steadily and impassively along through the storm.

More than ever they looked like a mist that had risen from the earth, and one that would soon return whence it had come. As I looked at them through the lancing lines of the rain, I said to myself:

"I have seen an army of ghosts today."

### Sixteen Rural School Units for Mobile County, Alabama.

The school commissioners of Mobile county, Alabama, are arranging for the construction of a number of rural schools to be built on the unit plan. There are 16 units to be built in different parts of the county, some localities having as many as four units in a group. The units are to be uniform in design, with buildings one story in height, concrete footings and brick underpinning to the first floor and hollow tile above. The exteriors are to be stuccoed, the roofs of first-class composition type and the interiors to be well finished. Each unit will have four classrooms, cloakrooms, etc. The contemplated expenditure for the 16 units will be considerably more than \$125,000. Bids have been invited, to be received at the office of the architect for the Board of School Commissioners of Mobile county until 12 o'clock noon of Monday, July 2. A note from the architect who has drawn the plans, George B. Rogers, 1110 Van Antwerp Building, Mobile, Ala., states that in all probability the date for opening the bids will be extended.

### Municipal Bonds and the Income Tax.

An address delivered by R. S. Hecht, vice-president of the Hibernia Bank & Trust Co. of New Orleans, before the Alabama Bankers' Convention at Mobile on May 11, 1917, is issued in pamphlet form by the bond department of the company. His subject, "What Makes a Municipal Bond Attractive," is handled in a thorough and interesting manner, dealing especially with the recent questioning as to whether income from them could be included for the income tax. Concerning this he says:

"Certain it is that when the various States voted on the amendment (the sixteenth amendment to the Constitution of the United States providing for taxation of incomes 'from whatever source derived') they did so under the distinct impression that the amendment would not give the Federal Government the power to tax income from municipal obligations, and inasmuch as the law has been interpreted on this basis during the four years the income tax has been in actual operation, it seems hardly conceivable that an attempt would be made at this late date to put a different construction on the meaning of the amendment. \* \* \*

"Just how important a question this is under existing conditions may best be illustrated by the fact that before buying a recent issue of the New York State bonds the Bankers' Syndicate obtained a formal opinion from one of the best law firms in New York (one of the members of which is an ex-Attorney-General of the United States) to the effect that the Federal Government cannot tax the income from these bonds, and all of the prominent bond attorneys concur in that view.

"The importance and effect of this tax exemption upon the attractiveness and value of municipal bonds during the next few years can hardly be exaggerated, because, come what may, the income tax is certain to be put very much higher. \* \* \*

"Under these circumstances municipal bonds will, of course, become more and more attractive, especially to the wealthier investors, even if they do not pay as high a rate of interest as do corporation bonds, the difference being easily offset by the saving in taxes."

### Large Irrigation Project in Texas Under Way.

Carrizo Springs, Tex., June 22—[Special.]—Frank S. Taylor of Austin, engineer, has been engaged for the last few weeks in making a complete survey of lands bordering the Nueces River, lying to the east of here in this county, preliminary to the construction of a system of irrigation that will enable the reclamation of about 15,000 acres of land. Mr. Taylor has made no mention of who is back of the project, but it is understood that he is doing the work for a syndicate of Eastern men. Mr. Taylor is covering every phase of the proposition in his investigations. The work includes a compilation of data as to water supply, both by artesian wells and the river, the productiveness of the soil, rainfall, climatic conditions generally, character of crops that may be raised and their average yield per acre.

It is stated that an option has been obtained on a part of the 200,000-acre ranch of Charles P. Taft of Cincinnati, with the view of merging it into the project. This ranch is situated more than 100 miles west of the 160,000-acre property which Mr. Taft owns near Sinton, on the Gulf coast of Texas.

### Importance of Cotton Crop as a Food Factor.

Asheville, N. C., June 26—[Special.]—The South Carolina Cottonseed Crushers' Association adjourned this evening after one of the most interesting and instructive conventions in its history. Able addresses were delivered today by Prof. W. A. Shelton of Athens, Ga.; Dr. J. N. Harper of the Southern Fertilizer Association, Atlanta, Ga., and E. B. Gunter, Jr., of Aiken, South Carolina.

Yesterday's session was devoted largely to the discussion of the importance of the cotton crop as a factor in the food and feed economics of the country just at this time. Geo. C. Palmer, a farmer of Cartersville, S. C., and J. A. Martin of the Progressive Farmer, Raleigh, N. C., and others spoke along this line.

Russell Acree of Darlington, S. C., was elected president; O. M. Lipscomb of Ninety-six, S. C., vice-president, and W. B. West re-elected secretary and treasurer.



### Tanks of Hollow Tile for Storing Cottonseed.

A number of cotton-oil companies in the South have in recent years adopted a method of hollow tile construction for the storage of cottonseed that has not only proven more economical, but provides larger capacities and gives more general satisfaction in the handling of the cottonseed. These new tanks are being built of hollow tile especially manufactured for the purpose. The use of this material for storage tank purposes was determined upon after considerable investigation of materials that would lend themselves economically and successfully for the purposes for which these tanks were used. As a result of this investigation the Griffin Construction Co. of Atlanta, Ga., suggested to the Buckeye Cotton Oil Co. of Atlanta that hollow tile be used in the construction of some large tanks the company was considering erecting at its plants in Atlanta and Charlotte. The same suggestion was made to Swift & Co. in connection with some tanks for the same purpose it was planning to build at Augusta, Ga.

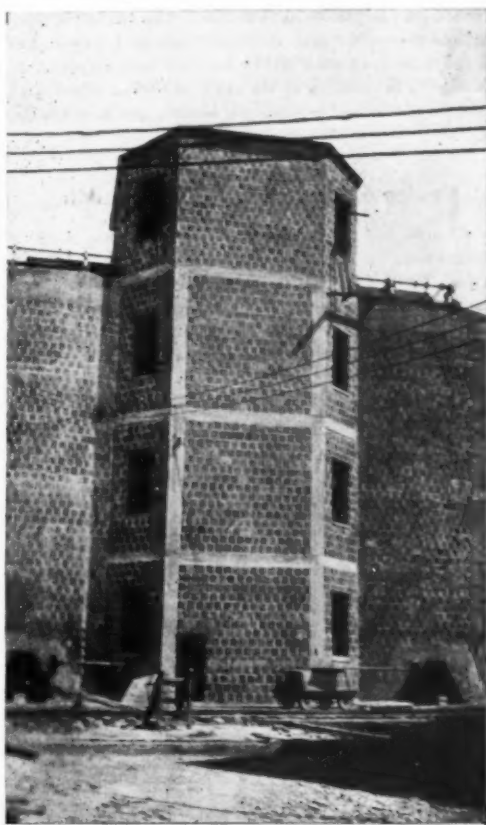
The investigations and tests on the usual run of hollow tile indicated that this would probably not be satisfactory for the erection of these tanks because it would not carry the heavy weights necessary for tanks 50 to 75 feet in diameter and 50 to 75 feet in height. It was found, however, that a tile especially made from shale and fire-clay in proper proportions and with some special features of construction would be amply strong enough to sustain any weight that might be put upon it in the construction of the tanks.

After these matters had been all worked out and placed before the Buckeye and Swift companies, contracts were awarded to the Griffin Construction Co. to build tanks along the lines laid down, and arrangements were made with the Roper-Strauss-Ferst Company, Inc., manufacturers of hollow tile, Birmingham, Ala., to make the special tank tile decided upon.

The first of these new tanks have now been completed nearly two years, and as an evidence of the satisfaction and economy given the Buckeye Cotton Oil Co. has recently awarded the Griffin Construction Co. contracts for the erection of several large hollow tile tanks for plants at Memphis, Tenn., and Little Rock, Ark. The Dixie Cotton Oil Co. has also awarded a contract to the Griffin company for the erection of similar tanks at Little Rock, and the Hodgson Oil Refining Co. gave the Griffin company contracts for building some of these tanks at Athens, Ga. The special tile for all of these tanks will be made by the Roper-Strauss-Ferst Company.

Some idea of the substantial character and appearance of this new type of tank construction can be had from the two accompanying photographs of those erected

for the Buckeye and the Swift companies. The tile generally used for these tanks is 8x12x12 inches, with six or more cells, and has a semi-circular three-inch hand-cut groove on the end of the outer cells. When a ring of tile is laid up this cut becomes a continuous groove, into which the steel and cement is placed. Re-



ELEVATOR ENCLOSURE AND PORTIONS OF HOLLOW TANKS FOR SWIFT & CO., AUGUSTA, GA.

liance for resisting bursting pressure is mainly on the reinforced concrete, although the tile wall itself is capable of withstanding a considerable pressure. The roofs may be of either steel or reinforced concrete, and the walls have been found to carry the latter with the usual factor of safety. The floors are of concrete resting upon a bed of dry cinders. The size that has been found most convenient for operation and economical

in construction is 50 feet in diameter by 60 feet high, although some of these tanks have been erected with a diameter of 75 feet.

A number of advantages are claimed for this new type of tank construction, among them being low cost, no expense in maintenance, and a large saving in insurance rate. In some cases it has been estimated that ordinarily the insurance premiums on the present high price of seed would pay for the building of hollow tile tanks in from two to four years.

### Bag Company Will Engage in Unique Collateral Enterprise.

The Burnett Bag & Burlap Co., formerly of Baltimore, will open a new plant in Brooklyn, Anne Arundel county, within the next two weeks. The company operated a similar plant at Howard and Ostend streets, Baltimore, for a number of years, but the plant was sold to the Union Mining & Smelting Co., manufacturer of solders, etc. The plant is on the J. M. Rider Glade Farm, on the Annapolis Boulevard about 2½ miles from the center of Brooklyn and one mile back from the boulevard. The entire farm of 212 acres has been purchased and will be farmed by the company.

The plant, which cost about \$5000, will handle about \$125,000 of business yearly. It is of frame construction, with galvanized-iron sides, and built on the daylight plan. The main building is 150 feet long and 40 feet wide, and of about two stories high, having a mezzanine floor over about one-third the length. It is protected from fire by a 7000-gallon steel tank. Henry S. Rippel of Baltimore erected the plant and tank. The machinery is all electrically operated and is modern in every respect, and includes bag-cleaning machinery, sewing machines and electric presses. Current will be furnished by the Consolidated Gas, Electric Light & Power Co. of Baltimore, who ran a special line from the boulevard to the plant. About 20 people will be employed. Only second-hand sacks will be handled. They will first be cleaned thoroughly and then repaired to be resold.

A novel plan will be attempted in connection with the plant. From bags that have been used for grain, much wheat, corn, barley and oats are obtained, and from others flour, fertilizer, etc. All these products will be saved, and the ones fit for feed will be used in connection with extensive hog-raising operations, while the other materials will be used in making fertilizers. In order to enrich the fertilizers acid phosphate will be added. Corn, hay and alfalfa will be the principal crops raised.

A large number of greenhouses covering a considerable area on the farm have been repaired and improved and are to be used in growing roses exclusively. Already 7000 roses have been planted. It is said that the houses are the finest in the section to grow roses, the soil being specially suited to them, and the houses are built on the south side of a hill.

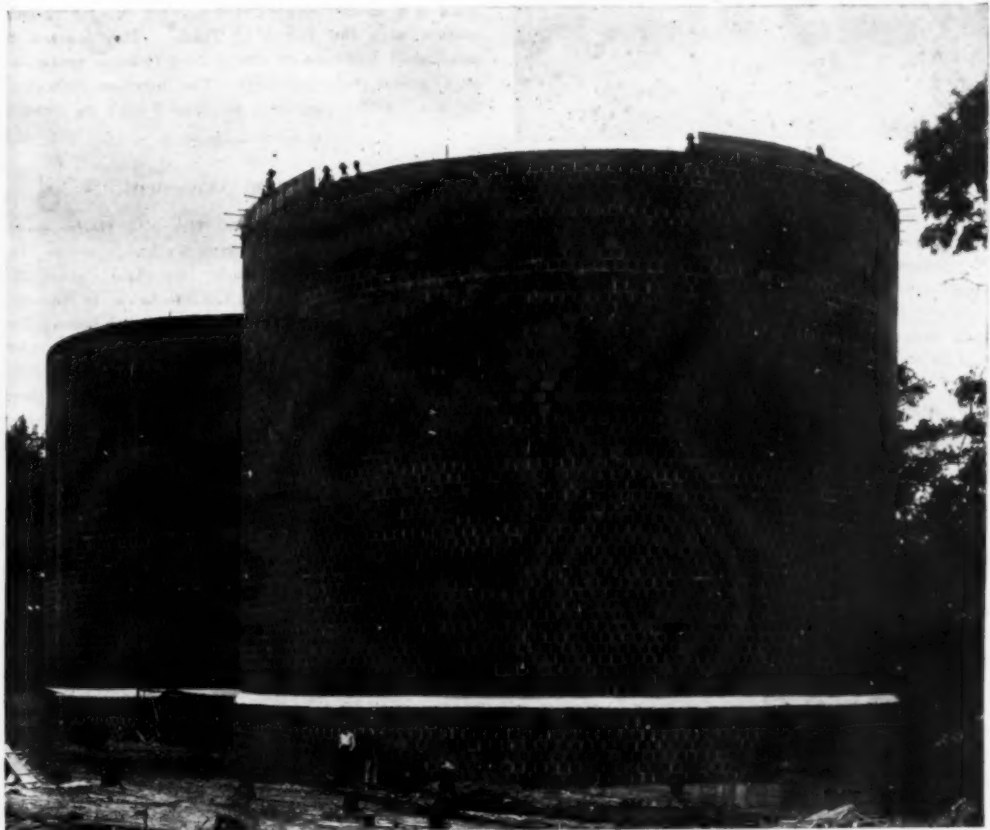
### Wooden Ship Launched at Jacksonville.

The Hillyer-Sperring-Dunn Company of South Jacksonville, Fla., launched its first wooden ship last week, the schooner Lohocla. The vessel is 200 feet long, with a 36-foot beam, and was built for the David Berg Investment Co. of Philadelphia, and is reported to be used in the transportation of molasses from Cuba and Porto Rico to Philadelphia.

Cox & Stevens, New York, are the architects for the schooner, and its construction was under the supervision of Capt. John H. Bland of Jacksonville.

### Big Box Mill for Sparrows Point.

An annual capacity of 4,000,000 boxes (sufficient for 48 tinplate mills) has been decided upon for a box plant which the Bethlehem Steel Co. will build at Sparrows Point, Md. These wooden boxes will be used for packing the product of the company's big tinplate mill now nearing completion. The factory building will be of brick and steel construction, 200 feet long by 60 feet wide, 18 feet high to the bottom of roof trusses; 120 feet for the manufacturing department and 140 feet for the stockroom. The capacity will be sufficient for twice the number of tinplate mills now contemplated.



TWO HOLLOW-TILE TANKS FOR BUCKEYE COTTON OIL CO., ATLANTA, GA.

### Coal Activity in the Big Sandy Field of East Kentucky.

Hellier, Ky., June 26—[Special.]—Corrigan, McKinney & Co. of Cleveland, who have a plant of Koppers by-product coke ovens in connection with their iron and steel works, have purchased between 5000 and 6000 acres of coal which was formerly a part of the property of the Big Sandy Company and conveyed by it to the Chesapeake & Ohio Railway Co. Corrigan, McKinney & Co. are making developments here for an output of 3000 tons a day to supply their by-product coke ovens at Cleveland.

The Semet-Solvay interests have taken over the coal mines of the Henry Clay Coal & Coke Co. and the Big Branch Coal & Coke Co. on Marrowbone Creek, and have taken an additional acreage by lease from the Big Sandy Company amounting to about 3000 acres. They are going forward with extensive developments to increase the output from the four mines on these properties.

The Greenough Coal & Coke Co. has been sold to Thomas J. Mitchell of Uniontown, Pa.; Augustus P. Loring and Charles E. Hellier of Boston, who have reorganized the property under the name of the Greenough Coal Co., and are installing an electric power plant and getting ready for an output of 1500 tons a day of coal, all of which, it is reported, is sold to the Semet-Solvay Company, who have thereby secured all of the tonnage on Marrowbone Creek. This is a high volatile coal and in great demand for use in by-product coke ovens.

It is reported that the Allegheny Coke Co., which has a plant of 150 coke ovens near here, is contemplating doubling the number of its ovens and thereby securing an output of about 20,000 tons of coke a month.

### To Reclaim 100,000 Acres of Delta Land.

Engineers have completed plans for reclaiming 100,000 acres of delta land in the Black Bayou Drainage district of Washington county, Mississippi. L. C. Hays of Hollandale, Miss., president. Bonds for \$685,000 will be sold and contracts for construction will soon be awarded. There will be 28 ditches 122 miles long, and 1 ditch 11 miles long for the outlet, a total of 4,700,000 cubic yards of earth to be removed. Four thousand acres of the district will be surrounded by a low levee and a drainage ditch, with a drainage pumping plant, as this portion of the land is too low to be effectively drained at all seasons by ditches alone. The pump will be operated only when the water in the outlet is high—about two months of the spring season each year. Hollandale, Leland, Greenville and other cities are within the district, the Yazoo & Mississippi Valley Railway traversing the district the entire width and length of the north and east sides. The Southern Railway crosses the north end by way of its Greenville-Columbus branch. The Morgan Engineering Co. of Memphis is the engineer for the drainage district.

### Texas Molybdenite Hardens Steel for Allies' Cannon.

Quantities of molybdenite (molybdenum sulphide,  $\text{MoS}_2$ ), a great steel hardener, are being mined and shipped from Texas to Canada, where it is prepared for use in hardening the steel from which large guns and armor plate are made.

Prof. N. J. Badu, mineralogist and geologist of Llano, Tex., in an interview in the Houston Post regarding the use of this mineral and its rapid development, says:

"We are shipping molybdenite from Llano to Orilla, Ontario, Canada. This metal is in great demand by the allied countries now, being used like tungsten to harden steel in armor plate and big guns. A gun or steel plate so made will become immensely harder. A gun so made will stand up under the most continuous firing instead of 'falling in,' as they call it.

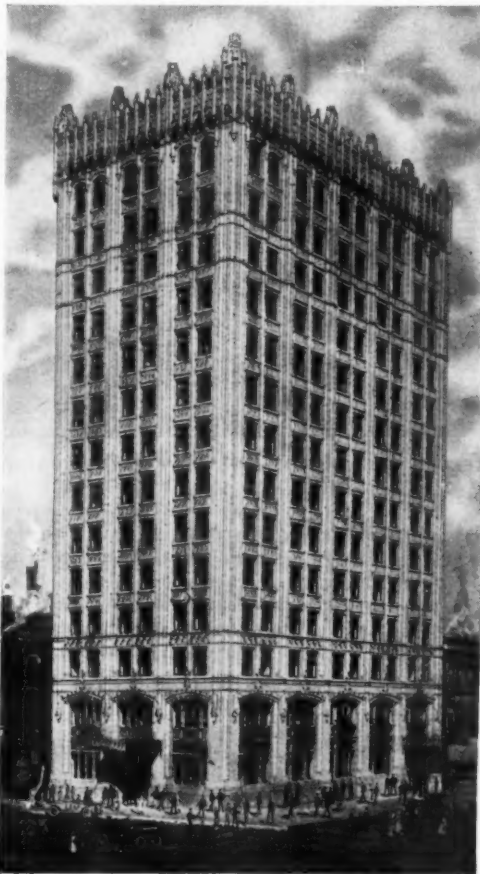
"The price is \$2 a pound now, 85 per cent. concentrates. Even before the war, when the fact that molybdenite was a great steel hardener was unknown, the price of the metal was \$1 a pound, but one ton of it was sufficient to last a country like the United States a year. Now, we cannot hope to supply the demand. The English Government, for instance, has com-

manded all the molybdenite mines in their provinces, and yet they have to buy from other countries. Even when peace has been declared the new use of the metal, that of hardening steel, will insure the use of it in hardening hammers, saws and other tools of all kinds. The tools used on irons will have to have it."

The Post also states that manganese is being shipped from Llano to the allied countries. The minimum price of this ore at the present time is said to be about \$45 a ton, and more than 2000 tons have been shipped. It is used in the making of big guns, and when mixed with molybdenite is said to make the best big gun now known.

### Cosden & Co.'s \$500,000 Office Building.

Ground has been broken and construction work is progressing on the proposed office building at Tulsa, Okla., for Cosden & Co. This structure, it is said, will be the tallest in the State, its dimensions being 100x60 feet, 15 stories and basement. The frame will be of reinforced concrete, while the exterior of both street ele-



COSDEN & CO.'S OFFICE BUILDING, TULSA, OKLA.

vations will be finished in terra-cotta and the other elevations in building brick. Floor construction will be of reinforced concrete, with two-way reinforcement. A vacuum steam-heating plant with temperature regulation will be installed, as will also high-speed wormless gear elevators. The building will cost about \$500,000, and an accompanying illustration presents a view of it as it will appear when completed. Plans and specifications were prepared by Henry F. Hoit of Kansas City, Mo., and the general contract awarded to George A. Fuller Construction Co. of the same city.

### Hydro-Electric Developments in the Carolinas.

Raleigh, N. C., June 19—[Special.]—The Palmetto Company, a subsidiary of the Carolina Power & Light Co. of Raleigh, today began, with a large construction force, the work of building a transmission line 100 miles in length from Wateree, S. C., a little below Camden, straight up stream, to connect at Laurinburg, N. C., with the company's Yadkin River power system. The transmission line will carry a voltage of 100,000 and a horse-power of 20,000, and will cost \$1,500,000.

The Wateree hydro-electric power plant, constructed by another company, is finished, its cost approximating \$6,000,000.

The Carolina Power & Light Co., with Raleigh as

headquarters, furnishes light and power for all the territory between Roxboro on the north, near the Virginia line, well down into South Carolina, and from Durham, on the west, to Goldsboro, on the east, covering about 30 cities and towns and many scattered plants. It is to bring in yet other important water-powers.

### Paper and Paper Products Mill.

Approximately \$150,000 will be invested for the construction of buildings and the installation of machinery for manufacturing paper and paper products at Chattanooga. This enterprise is planned by the Tennessee Paper Co., which has been chartered with a capitalization of \$200,000 and proposes a daily capacity of 40 tons. The equipment will be driven by electric power, John Stagmaier, Mercer Reynolds, A. M. Shepherd, G. H. Miller and others of Chattanooga and A. M. Tomlinson of Athens, Tenn., are the incorporators.

### To Build Ship Engines at Baltimore.

Contract has been awarded to the Ellicott Machine Corporation of Baltimore to construct 12 vertical triple expansion marine engines for installation in wooden vessels being built for the United States Emergency Fleet Corporation, controlled by the Government. The amount involved has not been announced, but it is understood that each engine will cost more than \$250,000, and that probably six of these equipments will be installed in hulls for which the Baltimore Dry Docks & Ship Building Co. has contract.

### For \$130,000 Telfer System.

Mobile's municipal election upon voting bonds for the construction of a telfer system has resulted affirmatively and \$130,000 is the amount to be expended. The city has voted \$55,000, this being its pro rata share of the construction involved. This telfer system will connect the municipal wharves and the wharves of the Mobile & Ohio Railroad and the Southern Railway with the Magnolia Compress Co.

### Naval Stores Market for New Orleans.

At a recent meeting of the directors of the New Orleans Board of Trade the naval stores committee reported that it was considering plans for the establishment of a naval stores market in New Orleans in connection with the Board of Trade. This market, if established, will provide official New Orleans quotations on all naval stores products. The directors authorized the naval stores committee to proceed with its plans.

### The Cotton Movement.

In his report of June 22 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 326 days of the season was 12,320,105 bales, an increase over the same period last year of 147,094 bales. The exports were 5,167,045 bales, a decrease of 169,408 bales. The takings were, by Northern spinners, 2,680,098 bales, a decrease of 287,231 bales; by Southern spinners, 3,996,203 bales, an increase of 296,699 bales.

### Seaboard Earnings Increasing.

The Seaboard Air Line's statement to the Interstate Commerce Commission covering the four months ended April 30 shows total operating revenue \$10,264,842, increase as compared with the same period of last year \$1,197,857; total operating expenses \$6,967,162, increase \$1,153,317; operating income after taxes and other deductions \$2,863,785, increase \$14,546.

### Gasoline-Electric Car Service.

The Seaboard Air Line has begun the operation of a gasoline-electric passenger car between Savannah, Ga., and Jacksonville, Fla. If necessary, trailers may be attached to it.



# The Iron, Steel and Metal Trades

## BASIC IRON AT \$50 AT BIRMINGHAM.

### Shipping Iron by Motor Trucks.

[Special Dispatch to Manufacturers Record.]

Birmingham, Ala., June 26.

Woodward Iron Co. sold this week a heavy tonnage of basic iron, delivery to begin October 1 and to be completed by April 1, at \$50 per ton. Regular quotations have been given at \$45 per ton No. 2 foundry for last quarter of this year and \$42.50 first quarter next year. Several companies are out of the market entirely until they can catch up with orders. Sloss-Sheffield is shipping heavy tonnage basic on British contract taken last year. Many home consumers are getting deliveries in small quantities by motor trucks, drays and flat cars on railroads. Almost any price is obtainable for spot iron.

Birmingham, Ala., June 25—[Special.]—Pig-iron for delivery during the last half of this year is a scarce article in the South, and manufacturers are sounding out \$45 per ton No. 2 foundry. Sales are being made for delivery during the first half of next year on a basis of \$42 per ton, and this price is likely to be bettered within the next 10 days, if not sooner. Special brand and special analysis irons bring more than this now, while charcoal iron has gone above \$50 per ton. Production is being maintained at the maximum pace, and the June output in Alabama promises to be the record. Positively no doubt obtains as to the strength of the market, and inquiries are numerous yet for deliveries any time between now and July 1, 1918. Some sales have been made for the last half of next year, though it cannot be learned whether concessions were given on the business. One of the active furnace companies of the district announced two changes in prices during the past week, the statement being made that there would be advances when 10,000 tons of iron had been disposed of. This happened twice during the past week, and the prospects are there will be an additional advance this week.

Deliveries of iron are being well maintained, though there is a reiteration that much iron is moving on old contracts, the average price of the product not being much above \$25 per ton No. 2 foundry. There has been some reduction of accumulated stocks of iron in the South during the month. Consumers are still urging deliveries.

Some little concern is expressed as to the Government taking a hand in the price of iron in the future as well as on deliveries. Practically the probable make for the balance of the year has been sold by furnace companies, while a large proportion of the probable make during the first six months of the coming year has been disposed of, all at handsome prices. As to what the Government will do remains to be seen, though the expectations are there will be no drastic action taken.

Home consumption is on the increase. Cast-iron pipe plants are melting in quantity again, and there is a better delivery noted in this direction. Foundries and machine shops have many orders in hand, and preparations are being made in several directions to enlarge and increase the production capacities. The Government has sent an inspector of shells to the plant of the Birmingham Machine & Foundry Co., several thousand shells, weighing 1440 pounds each, supposed to be for practice purposes, to be produced here. While the recent advances in cast-iron pipe quotations were not expected altogether, it is understood that a number of specifications are being considered and business will be booked that will warrant very active operation for months to come.

Announcement was made during the week that Frank H. Crockard, vice-president of the Tennessee Coal, Iron & Railroad Co., had tendered his resignation and had accepted the presidency of the Nova Scotia Steel & Coal Co. He will be succeeded by H. C. Ryding, who has been for the past 10 years assistant to the vice-president. The office of assistant to the vice-president has been

abolished. Mr. Ryding came here after rebuilding the Lorain Steel Works at Lorain, O. It is understood that C. J. Barr, former general superintendent of the steel mills of the Tennessee company at Ensley, is returning to the Birmingham district and will assist in the construction work that is about to be started on. The excavation work on the developments will probably be under way before the expiration of another month.

The scrap iron and steel market in the Birmingham district is just as active as the pig-iron market, and quotations have again gone up. Dealers state they can hardly handle the home business, much less accept contracts from St. Louis and other sections as are being offered. Scrap is not so easily obtained, say dealers. There were general changes in the quotations again the past week.

Pig-iron and old material quotations in the Southern territory are given as follows:

### PIG-IRON.

Bessemer, Pittsburgh.....	\$55.95	\$58.95
No. 2 foundry.....	53.95	55.95
Basic, valley.....	50.95	53.95
Malleable.....	53.95	55.95
Basic, Philadelphia.....	49.75	50.75
No. 2 foundry, Northern.....	48.75	50.75
Low phosphorus.....	52.00	55.00
No. 2 foundry, Buffalo.....	49.00	50.00
No. 2 South, Cincinnati.....	53.00	54.00
Northern foundry, No. 2 Cleveland.....	53.00	54.00

### SCRAP-IRON AND STEEL.

Heavy melting steel.....	\$44.00	\$47.00
Steel car axles.....	55.00	60.00
Iron car axles.....	54.00	56.00
Low phosphorus.....	55.00	57.00
Heavy cast.....	28.00	30.00
No. 1 cast scrap.....	36.00	38.00
No. 1 railroad wrought.....	42.00	45.00
Cast borings.....	24.00	25.00
Machine-shop turnings.....	22.50	23.50
Railroad malleable.....	32.00	33.00

## STEEL CIRCLES EXCITED OVER GOVERNMENT PRICES.

### Government Plans Not Favorably Received in Steel Circles—Raw Steel Getting Very Scarce—Pig-Iron Active Again.

New York, June 25—[Special.]—Never since the outbreak of the great world war has the steel trade been so excited as it was last week over the controversy in Washington as to what should constitute a fair price for the steel supplied on Government account. The hubbub at the National Capital has raised the question, What is the cost of steel production? This is a more simple question to ask than it is to answer. There are many angles from which to view the matter, and considered from different viewpoints the inquirer comes to various and conflicting conclusions.

There is no doubt that when called upon at a time when patriotic sentiment ran high the United States Steel Corporation made a generous response and agreed to furnish the Navy Department with plates, shapes and bars at about 50 per cent. under the prevailing market. Later these prices were sustained, and the other large steel manufacturers agreed to come in and take their share, so that the burden—for so it was considered—might fall equitably upon all the mills in proportion to capacity. At that time it was announced by Judge Gary that the total Government requirements would not exceed 2 or 3 per cent. of the combined capacity of the mills. The Government plans, however, have been extended to a limit that was not contemplated when the price arrangements were made, and to continue to supply an unlimited demand at half the market cost to the exclusion of profitable outside business was claimed by the officials of the steel companies, in interviews last week, to be both unreasonable and unfair. The latest estimates state that the Government requirements in the way of semi-finished and finished steel products during the next 12 months will entail a production equivalent to nearly one-third of the total mill capacity of the country. As Government orders take precedence over all others, this means a severe setback for all private enterprise, the seriousness of which will only be realized when the public will

have to go without much of its ordinary requirements and labor and material are diverted into other channels.

It is the unanimous opinion in the trade that the price of 2.90 cents a pound quoted when the Government's requirements were expected to be far smaller than they have turned out to be is too low, in view of the high cost of coal and coke, labor, manganese and other cost items. If the Government did not frown upon price co-operation among the steel manufacturers it is suggested in some quarters that it would be possible to settle the question of a fair price satisfactorily and expeditiously. As it is, steel prices are advancing riotously. Prices on many lines vary so widely divergent that quotations mean practically nothing. Conservative opinion in the trade does not view this situation with favor, and the larger manufacturers for the most part are endeavoring as far as possible to restrain prices and keep them around quoted levels which, they point out, are high enough to satisfy any reasonable producer.

The finished steel market last week grew still narrower than heretofore, offerings being very limited and taken by buyers at constantly advancing prices. Consumers as a whole cannot afford to pay present market prices, which are based usually on deliveries within from three to six months. Their finished wares have not advanced in keeping, and probably will not do so. Thus the sales of black sheets last week were at from 8 to 9 cents, while there were also sales for the present half-year at 3.40 cents and less, and there were large sales for the second half at 5½ cents, deliveries against which have not yet commenced.

Independent wire mills advanced wire products to a minimum basis of \$4 for nails, the \$3.50 mark having been established at the beginning of last month. The independent pipe mills also advanced their prices by an average of about six points, or \$11 a ton.

The scarcity of semi-finished steel became more pronounced last week, and as a result the output of wire products, steel sheets and tinplates is being cut down more and more and prices for billets are still rushing in the open market. Some sales of billets rolled from discard steel sold as high as \$95 a ton. The steel mills, which received orders from the Government last Wednesday for 81,000 tons of shell steel, will receive 3.75 cents per pound, whereas the last sales of this kind of steel to the allied governments were made at 4¼ to 4½ cents per pound, and large tonnages of this material are still being exported.

During the past week the Government placed miscellaneous orders for 100,000 tons steel, including 10,000 tons additional sheets for camp and army equipment and for wooden boats; several thousand tons of shafting and 20,000 tons of rivets to be used in the construction of army wagons, and 20,000 tons rivets and 25,000 tons bolts are still under negotiation. It is estimated that the Government will require about 25 per cent. of the annual productive capacity of bolts, while the output is being restricted by the shortage of labor.

The War Department last week placed additional orders for 2500 tons of 12-inch and 24-inch cast-iron pipe for water supply at army cantonments, making total purchases of about 7000 tons, and 3000 tons more are under negotiation. It is reported on reliable authority that the Shipping Board has requested mills in the Chicago district to suspend foreign shipments of hull plates manufactured to Lloyd specifications, and to divert the hull plates to Pacific shipyards having Government contracts for steel ships. This action follows the recent request that shipment of 6000 to 10,000 tons of steel plates and shapes to a Pacific coast shipbuilder take precedence over orders previously placed.

Pittsburgh advices state that manufacturers buying sheets for Government work have been granted concessions of \$20 and \$25 a ton from the prices current in the open market. It is estimated that the Government's indirect purchases of sheets have amounted to at least 50,000 tons. Among the latest contracts is one lot of 6000 tons for the manufacture of camp stoves. Boat builders on Government account are in the market for plates, shapes, sheets, bolts, rivets and nuts, and one manufacturer of ordnance has put out an inquiry for 8000 tons of billets and blooms for gun forgings.

Japanese interests were persistent buyers last week of steel plates, shapes and of steel pipe. In the past week they have been able to purchase about 6000 tons of tank plates, paying 9½ cents a pound for quick shipment and 8½ cents per pound for shipment over the first quarter of 1918. Other lots of several thousand tons were bought at 8½ to 9 cents a pound. They have also secured several thousand tons of line piping from

New York agents for shipment during the first half and third quarter of 1918.

The upward advance in pig-iron values is rather too rapid to suit the average consumer or to meet the necessities of the man who cannot offset the price of his raw material by a proportionate increase in the price of his finished product. So quickly is iron advancing that quotations serve merely as a guide to the upward turn. They cannot be relied upon as the basis upon which purchases can be made. After every advance comes a comparative lull in the buying movement, and the prices are pegged for the moment. Then comes the inevitable feeling out of the market, which results in numerous sales, and then, just as inevitably, the pegs are withdrawn and prices move up another notch or two. Within the past two days iron has gone up on an average of \$2 and \$3 a ton for each grade, and is now considered cheap at the latest advance.

#### PIG IRON.

No. 1 foundry and soft.....	\$42.00 to \$45.00
No. 2 foundry and soft.....	41.00 to 45.00
No. 3 foundry.....	39.00 to 40.00
No. 4 foundry.....	37.00 to 38.00
Gray forge.....	34.00 to 35.00
Basic.....	41.00 to 45.00
Charcoal.....	43.00 to 50.00

#### OLD MATERIAL.

Old steel axles.....	\$40.00 to \$41.00
Old steel rails.....	30.00 to 31.00
No. 1 wrought.....	31.00 to 32.00
Heavy melting steel.....	24.00 to 26.00
No. 1 machinery.....	27.50 to 28.50
Car wheels.....	27.00 to 28.00
Tramcar wheels.....	24.00 to 26.00
Stove plate.....	15.50 to 16.50
Shop turnings.....	12.00 to 13.00

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal).....	\$95.00—\$100.00
Open-hearth billets (nominal).....	95.00—100.00
Open-hearth sheet bars.....	105.00—110.00
Bessemer sheet bars (nominal).....	105.00—110.00
Forging billets.....	125.00—135.00
Wire rods.....	90.00—100.00
Rolls.....	60.00—61.00

(Dealers' average buying prices for pound lots.)

Tank plates.....	\$8.00—\$9.00
Steel bars.....	4.00—4.50
Refined iron bars.....	4.75—
Steel hoops.....	5.50—6.00
Cold-rolled strip steel.....	9.00—
Sheets, No. 28 gauge.....	7.50—8.00
Galvanized sheets.....	9.50—10.00
Wire nails.....	4.00—
Cut nails.....	4.00—
Plain fence wire, base.....	3.75—
Barb wire, galvanized.....	4.85—
Railroad spikes.....	4.00—4.10

#### THE WEEK'S PRICES.

	Copper.		Lead.		Spelter.	Tin.
	Lake.	Electrolytic.	A. S. & R. C.	Independent.		
Monday, June 18.....	31.00—32.00	32.50—32.75	Nominal.	12.00—12.25	9.30—9.55	64.00
Tuesday, June 19.....	31.00—32.00	32.50—32.75	Nominal.	12.00—12.25	9.30—9.55	64.00
Wednesday, June 20.....	31.00—32.00	32.25—32.50	Nominal.	12.00—	9.30—9.55	64.00
Thursday, June 21.....	31.00—32.00	32.25—32.50	Nominal.	12.00—	9.30—9.55	63.75
Friday, June 22.....	30.50—31.50	32.25—32.50	Nominal.	11.75—12.00	9.30—9.42½	63.50

## TEXTILES

### CONTRACT FOR MARSHALL FIELD UNIT.

Virginia Development for 300,000 Spindles, With Looms and Mill City.

Contract has been awarded for the first unit of the big textile manufacturing plant which the Carolina Cotton & Woolen Mills Co. of Spray, N. C., controlled by Marshall Field & Co. of Chicago, will build at Field, Va. The four units now planned will have a total of 300,000 spindles, with accompanying looms and mill city. Specifications for the first unit provide for 75,000 spindles, with complementary looms, bleachery, powerhouse, warehouse, each one story high, and 200 cottages for operatives. This contract has been obtained by the E. H. Clement Construction Co. of Charlotte, N. C., with F. P. Sheldon & Son of Providence, R. I., as the engineers. It calls for a 340x340-foot structure for the spinning and weaving department.

This big development of Marshall Field & Co. has heretofore been outlined by the MANUFACTURERS RECORD. The textile machinery has been contracted for, and the details are being decided for the mill city improvements, developing 2000 acres of land, including facilities for drainage, electric lighting, water supply, sewer drainage, streets, sidewalks, etc. The cotton cloth and other cotton products manufactured will be sold through the Marshall Field stores at Chicago. The company's Spray, Draper and Leaksville mills, vil-

### ANOTHER LULL IN THE METAL MARKETS.

No Announcement on Government's Requirements Holds Off Buyers of Copper—Spelter and Lead Quiet—Tin Inactive.

New York, June 25—[Special.]—As the days go by and no official announcement is made as to the Government's requirements for copper, nor what it is going to pay for it, consumers of the red metal are left to grope in the dark and to use their imagination as to what the outcome will be. The uncertainty has naturally inclined buyers to be cautious, and, with rumors of investigations and commandeering filling the air, consumers are naturally liable to stand still and await developments. The copper market sagged last week to the verge of dullness. In fact, as quotations are practically nominal at this writing, it makes very little difference whether they are marked up or down, except for distant positions. The strong feature of the market is the fact that the contracts with the allied governments expire this month, and it is expected that a call will be made for further supply. This is somewhat offset, however, by probable price concessions.

There was nothing new or worthy of note in last week's lead market. Buyers appear to have commenced to mark time, and are waiting for the next move on the part of the producers. As with copper, all seems to hinge on the Government's requirements and price arrangements. The American Smelting & Refining Co. continues to quote spot lead at 11 cents as the basis for settlement of current contracts, but continues its policy of "no lead to sell." It had intimated that anticipating an increased production during June or July it might have some lead to offer, but thus far there has been none in sight.

Zinc ore continues high, but the production cost has been barely sufficient to hold the spelter market steady, and in the absence of buying interest an easier tendency developed last week.

The tin market was quiet throughout the week. Buyers were uncertain as to what course to pursue in view of want of decisions as to allotments, and sellers were not disposed to make any material concessions for the sake of business.

lages, public utilities, etc., all in North Carolina, with 117,000 spindles and 2455 looms, etc., represent an investment of about \$3,000,000.

### To Utilize North Carolina Wool.

J. W. Ragland of Newland, N. C., recently mentioned in connection with plans for a woolen mill, writes to the MANUFACTURERS RECORD:

"There are many sheep raised in this and adjoining mountain counties from which we think we can get 100,000 pounds of wool annually. This place is centrally located for such a proposition, and there is some undeveloped water-power here. A few of us believe that it is a good location for a woolen mill, and we are trying to investigate. We want information to ascertain the kind of machinery needed and the price; also to be put in touch by the manufacturers of machinery with others from whom we might obtain other information.

### Daily Capacity 300 Dozen Pairs.

Equipment will be installed for a daily production of 300 dozen pairs of cotton seamless hose for men and women by the Lenoir (N. C.) Hosiery Mills, recently noted as incorporated with \$6000 capital. A building has been rented for temporary use, and the machinery (all of which has been purchased) will include 56 knitters with ribbers, loopers, etc. Officers elected as follows: F. P. Moore, president-treasurer; J. Claude Moore, vice-president; Joe C. Moore, secretary.

### For Daily Output of 500 Dozen Pairs.

Five hundred dozen pairs of half-hose will be the daily output of a knitting mill to be established by B. G. Brumby, manager of the Marietta (Ga.) Chair Co. He has the necessary buildings, and is in the market for a complete equipment of machinery, to include dyeing and finishing apparatus.

### Textile Notes.

H. A. Fausett, Ocala, Fla., wants information and prices on machinery for knitting hosiery.

The Brockford (N. C.) Mills Co. has been incorporated with 350,000 capital by H. J. Holbrook of Brockford, C. A. Braman and Philip M. Smith of New York.

The Mt. Vernon-Woodberry Mills, Baltimore, will erect a warehouse, a wastehouse and another building, of brick and concrete construction. Jos. Evans Sperry is the architect.

An additional mill will be built by the Carolina Cotton & Woolen Mills Co., Leaksville, N. C., the construction contract having been awarded to the Jones Construction Co. of Charlotte.

It has been decided that Field (not Fieldale as lately stated) will be the name of the textile mill city to be developed near Koehler, Va., by the Carolina Cotton & Woolen Mills Co. (controlled by Marshall Field & Co. of Chicago) of Spray, N. C.

Dispatches from San Antonio, Tex., state that Chas. Schreiner of Kerrville has sold 1,250,000 pounds of merino wool to two Boston firms, Brown & Adams and Howard Jones. The sale was conducted privately, and the price was not made public. At Del Rio, Tex., 250,000 pounds of mohair wool was sold at 58 cents per pound for shipment East. At San Antonio, Austin firms purchased 1,225,000 pounds of Kerrville county wool for \$700,000. This price is nearly double that which was paid last spring.

Thomas Parker, cashier of the Bank of Rocky Ford, Rocky Ford, Ga., plans a capitalization of \$25,000, to be increased later if necessary, for his knitting mill recently mentioned as proposed. It is contemplated to provide a main building costing \$7500 and machinery costing about \$5000. Prices and information are wanted on the necessary equipment.

The Riverside and Dan River Cotton Mills, Danville, Va., will increase capital stock by 10,000 shares additional of common stock, making the total capitalization \$10,000,000—\$4,000,000 common and \$6,000,000 preferred. The directors also declared a dividend of 39 per cent. on common stock for distributing among the stockholders the surplus or undivided profits earned prior to March, 1913. This dividend is a special dividend of 34 per cent. and the 5 per cent. dividend due October 1, which is anticipated. By selling the 10,000 shares at \$150 per share the company receives \$500,000 more than it pays out in dividends, which difference can be profitably used, as the cost of cotton and other supplies has greatly advanced in price.

### Daily Output 50 Tons of Sulphur.

Plans are progressing for the production of sulphur by the West Texas Sulphur Co. of Philadelphia, which will develop 600 acres of sulphur land at Pecos, Tex. Machinery costing \$50,000 has been purchased, and the plant is proposed to have a daily capacity of 50 tons of sulphur. W. S. Blackburn is the manager and construction engineer in charge at Pecos.

### Motor Omnibuses to Be Run.

The Huntington Rapid Transit Co., Huntington, W. Va., has been incorporated with \$50,000 capital stock to operate motor omnibuses between Huntington and Ashland and Barboursville, Ky. Three buses have been ordered. The incorporators are D. P. Carter, W. A. Miles, A. E. Kelly, A. H. Adams and H. E. Pilcher, all of Huntington.

The Charleston Interurban Railroad Co., Charleston, W. Va., also contemplates operating two large motor omnibuses. The vehicles have been ordered from a leading automobile factory.



## RAILROADS

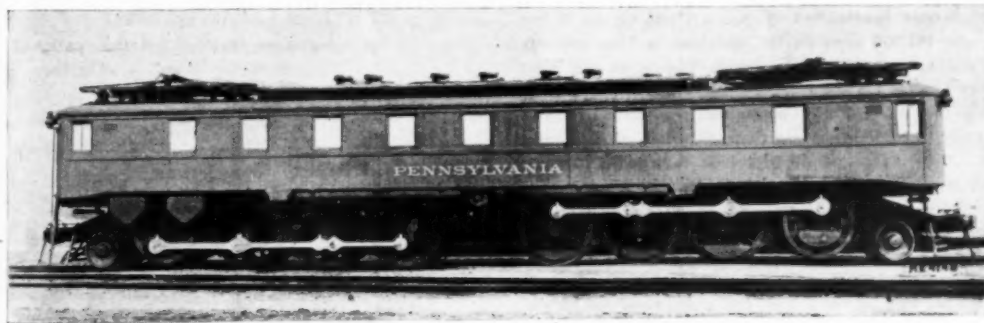
[A complete record of all new railroad building in the South will be found in the Construction Department.]

### MOST POWERFUL ELECTRIC LOCOMOTIVE.

#### Pennsylvania Railroad's New Installation for Hauling Freight Over Mountains.

The accompanying illustration shows the latest big thing in electric locomotives. It is the joint design of the Pennsylvania Railroad Co. and the Westinghouse Electric & Manufacturing Co., and it will be used in hauling heavy freight trains over the Allegheny Mountains between Altoona and Johnstown, Pa., a distance of about 40 miles, which includes the Horseshoe Curve. The mechanical parts of the locomotive were erected at the Juniata shops of the railroad company at Altoona, and the electrical equipment was built at the East Pittsburgh shops of the Westinghouse Company.

The traffic over the division on which this big locomotive will operate is remarkably heavy, amounting to



ELECTRIC LOCOMOTIVE FOR MOUNTAIN DIVISION OF PENNSYLVANIA SYSTEM.

300,000 tons a day. The grades are unusually steep, and electrification will greatly facilitate the movement of freight tonnage over the mountains. Eastbound trains of 6400 tons weight will be hauled by one engine pulling and one engine pushing at over 20 miles per hour. In capacity this locomotive, according to the builders, exceeds by over 50 per cent. the power of the large electric locomotives employed in transcontinental service.

Just now this new locomotive is being operated on the electrified section of main line on the Pennsylvania Railroad from Philadelphia to Paoli, Pa., and it is possible that it will be sent to the Norfolk & Western Railway's electrified section of main line between Bluefield and Vivian, W. Va., to further demonstrate its capabilities. This road was also electrified by the Westinghouse Company. Its electrical locomotive characteristics are similar to those of the Pennsylvania's engine, viz., 11,000-volt single-phase 25-cycle current.

The new locomotive is of the familiar side-rod type, built in one unit, with the cab extending over the two trucks, each of which has six 60-inch driving wheels, and has mounted on each two induction motors. The two motors on each truck are geared to a spring-gear jackshaft, which is connected to the driving wheels by means of side rods. The weight of the locomotive is 260 tons, and its length is 76 feet, yet it is much easier on the roadbed and track than a steam locomotive because the weight is cushioned and the running gear is perfectly balanced for all speeds, owing to the absence of reciprocating parts. It is designed for normal running at 20.8 miles per hour, which is considered sufficient for the steep grades and heavy traffic. A speed of 10.3 miles per hour is used for slow movements around yards, etc. Control is effected by means of water rheostats and power is thereby applied so gradually that long trains are started without jerks.

As in the case of the Norfolk & Western electric locomotives besides those on some other lines, this engine employs regenerative braking on descending grades, which not only holds the train under control with the airbrakes in reserve, but at the same time generates electricity (the motors acting as generators), which goes back into the trolley wires for use by trains going up the grades.

It is further said that this concentration of enormous power in a single cab unit is very much in excess of anything heretofore attempted.

### Owners of Railroad Securities Permanently Organized.

The National Association of Owners of Railroad Securities, recently organized temporarily at a meeting held in Baltimore, with S. Davies Warfield, president of the Continental Trust Co. of that city as president, has announced its permanent organization. Mr. Warfield continues as president, and the vice-presidents include T. K. Glenn of Atlanta, Ga., president of the Atlantic Steel Co., and I. H. Kempner of Galveston, Tex., president of the Texas Bank & Trust Co.; president of the First Texas Prudential Insurance Co., and also mayor of Galveston. J. Hough Cottman of Baltimore is treasurer. The executive committee also includes a number of prominent Southerners, thus: James E. Caldwell of Nashville, Tenn.; Walter F. Coachman of Jacksonville, Fla.; David R. Coker of Hartsville, S. C.; Crawford H. Ellis of New Orleans, La.; Jacob Epstein of Baltimore, Md.; Wm. M. Hayden of Baltimore, Md.; Robert Jenison, Sr., of Birmingham, Ala.; F. J. Kell of

Wichita Falls, Tex.; Henry A. Page of Aberdeen, N. C.; A. L. Shapleigh of St. Louis, Mo.; John G. Walker of Richmond, Va.; Clarence W. Watson of Fairmont, W. Va.; John F. Wilkins of Washington, and Ernest Woodruff of Atlanta, Ga.

The object of the association is to protect the interests of holders of railroad stocks, bonds, notes, etc., in legislation or regulations affecting the financial standing of the railroads.

### Railroads of Two States Would Raise Rates.

The railroads of Georgia have filed with the Georgia State Railroad Commission a petition for a flat increase of freight rates of 15 per cent., to take effect as soon after July 1 as possible. This is for shipments wholly within the State, of course, but it appears that there are some exceptions proposed to the general increase in which the companies desire to raise the rate more than 15 per cent. The hearing on the petition is to be held July 17. The argument in support of the request is that wages and the prices of all materials and supplies have increased to such an extent that the railroads require higher freight rates in order to meet expenses and also to sustain their credit and efficiency.

A report from Montgomery, Ala., says that the railroads of that State will also request a general advance of 15 per cent. on freight rates within the State. The request is to be filed July 2 and a hearing has been set for the July session of the Alabama State Railroad Commission.

### Practical Subjects Practically Discussed.

Several interesting and important pamphlets have been issued recently by W. H. Manss, assistant to vice-president in charge of commercial development, Baltimore & Ohio Railroad. They are entitled, respectively, "War Food and the Cost of Living," "The Vegetable Garden, Onion Culture, Potato Culture," "The Farm Labor Problem—Its Solution," and "Peaches—Growers and Shippers," the latter being a list of peach growers in States along the lines of the Baltimore & Ohio system, besides the names of dealers located in prominent cities and towns East and West. The several subjects

treated are discussed in a practical manner, and methods of meeting the needs of the people and the country are suggested and advocated. Copies may be obtained on request.

### Use Cut-Over Lands to Grow Crops.

To help increase food production during the war, two letters have been sent to D. F. Houston, Secretary of Agriculture, Washington, D. C., by F. C. Roesler, editor of "Current Events," the excellent monthly magazine published by the Kansas City Southern Railway Co. in the interest of the country which its lines serve. Mr. Roesler in his letters presents outlines of plans for utilizing the cut-over timber lands in Louisiana, Mississippi, Alabama and Georgia and also the eastern part of Texas. Concerning this he remarks: "In a period of national stress, when the certainty of making crops and the period of time in which they can be produced are the essential factors, it is of the utmost importance to promote increased tillage where the rainfall is abundant, the soil fairly fertile, the climate mild and healthful and railway transportation is adequate. The certainty of making crops is assured in the locations indicated, and there are several million acres available for this purpose."

### \$15,000,000 of Notes for Current Improvements.

The Baltimore & Ohio Railroad Co. has decided to issue \$15,000,000 of 5 per cent. short-term notes, none of them to run longer than two years. It is expected that this total will be divided into two issues of \$7,500,000 each, one for one year and the other for two years. It is announced that Kuhn, Loeb & Co. and Speyer & Co. of New York, who usually attend to the selling of securities for the company, are now floating these notes. The proceeds of the notes are for current improvement work.

### Potomac River Drawbridge Approved.

The United States War Department has approved the plans for the proposed bridge of the Washington-Newport News Short Line over the Potomac River between Riverside, Md., and Metomkin Point, Va. The plans now provide for a double-leaf bascule drawbridge with a clearance of 300 feet for all vessels when open and of 30 feet vertically when closed. There will be six truss spans, each 175 feet long. F. S. Gannon, 2 Rector street, New York, is president of the railroad company. Channing M. Ward of Richmond, Va., is chief engineer.

### Rock Island Receivership Ended.

The receivership of the Chicago, Rock Island & Pacific Railway having been terminated by the approval of the reorganization plan which provides for the issue of \$65,000,000 of preferred stock, the property has been restored to the company without a sale, and James Edward Gorman, who has been operating officer under J. M. Dickinson, receiver, has been elected president, as well as member of the board of directors. The road was handed over by the receiver at midnight June 24.

### Double Track Completed.

The Norfolk & Western Railway has put in service 19 miles of double track between Walton and Pearisburg, Va., upon which work has been in progress for about 20 months. The construction work was very heavy. This improvement is of great advantage in the handling of freight on this, the Radford division, where traffic is large.

### New Equipment.

Atlanta, Birmingham & Atlantic Railway has received 3 Mikado type locomotives from the Baldwin Locomotive Works, Philadelphia.

Macon Railway & Light Co., Macon, Ga., is building 6 electric street cars in its shops.

## Good Roads and Streets

### SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

#### Bonds Voted.

Fort Pierce, Fla.—St. Lucie county voted \$80,000 bonds to construct roads.

Hampton, Va.—Elizabeth City county issued \$50,000 bonds for road improvements.

Hernando, Miss.—De Soto county voted \$75,000 bonds to construct highway.

Kingsport, Tenn.—City voted \$150,000 bonds for street improvements, etc.

Kissimmee, Fla.—Osceola county voted \$100,000 bonds to construct 12 miles of road.

Linden, Tex.—Cass county voted \$40,000 bonds to construct roads.

Rutherfordton, N. C.—Rutherford county voted \$35,000 bonds for road construction.

#### Bonds to Be Voted.

Americus, Ga.—Sumter county will vote on \$100,000 bonds to construct roads.

Houston Heights, Tex.—City votes July 28 on \$150,000 bonds to pave streets.

#### Contracts Awarded.

Huntington, W. Va.—Cabell county awarded contract for 4.85 miles of road paving; \$115,000 available.

Huntington, W. Va.—City awarded \$4172 contract to pave alley.

Louisville, Ky.—City awarded \$13,197 contract for street improvements.

Pine Bluff, Ark.—Jefferson county awarded contract for 45 miles of bituminous-macadam road.

Salisbury, N. C.—City awarded contract for 1½ miles of bitulithic paving.

Troy, Ala.—City awarded \$75,600 contract for 29,500 square yards brick paving, 16,500 feet concrete curbing, etc.

#### Contracts to Be Awarded.

Americus, Ga.—City will construct 2500 yards concrete paving; cost \$3125.

Charlotte, N. C.—City will construct 4000 feet concrete pavement.

Cumberland, Md.—City receives bids until June 30 to pave and otherwise improve seven streets; 9505 linear feet concrete curb and 18,630 square yards cement concrete paving.

Hamlin, W. Va.—Lincoln county will construct six miles of road.

Jonesboro, Ark.—Craighead county will construct 34 miles of macadam road; estimated cost \$260,000.

Lagrange, Ga.—City will pave 200 yards street with brick; 500 feet granite curbing.

Marlow, Okla.—City will pave streets in business section; estimated amount \$50,000.

McCormick, S. C.—McCormick county asks bids until July 18 for grading and construction of drainage structures on about 70 miles of road.

Newport, Ark.—Jackson county will construct 10 miles of gravel road; \$65,000 available.

Panama City, Fla.—Bay county receives bids until July 10 for 157,000 square yards vitrified brick and other paving, 210,000 square yards gravel paving, 123 miles clearing, etc.; 5300 linear feet of bridge construction; \$380,115 available.

Portsmouth, Va.—Norfolk county will construct 10 miles of graded earth road.

Russellville, Ala.—City will improve streets; cost \$10,000.

Sand Springs, Okla.—City will expend \$90,000 for asphaltic concrete paving and sanitary sewer construction.

### For \$380,000 Road Construction.

Bids are invited until July 10 for Bay county (Florida) road construction, for which \$380,115 bonds are available in accordance with recent action of the Bay county commissioners. E. V. Camp of Panama City, Fla., is the consulting and supervising engineer in charge. The construction will include 157,000 square yards of vitrified brick, asphalt, asphaltic concrete, cement concrete or tarvia and gravel and sand-clay, or similar pavements, with grading, pipe drains, curbing, etc.; 210,000 square yards gravel paving, 92,000 square yards sand-clay and 20,000 linear feet topsoil surfacing, with grading, pipe drains, etc.; 123 miles clearing, grubbing, grading and shaping roads, also pipe drains, etc.; about 5300 linear feet bridge construction, complete, with substructure.

## LUMBER

### Large Timber Operation in Eastern North Carolina.

Raleigh, N. C., June 20—[Special.]—The Dare Lumber Co., in the county of that name, is now one of the two largest landholders in North Carolina, as it has bought 167,555 acres on the mainland in Dare recently owned by a holding corporation known as the East Lake Lumber Co. The Dare Lumber Co. has contracted with the Wood Pulp Corporation, chartered by New Jersey, to furnish not less than 200 cords of pulp wood and 200,000 feet of mill logs each day. This corporation has made contracts with R. B. Cotter, an experienced lumberman and capitalist, to cut and deliver 500 cords of pulp wood and 200,000 feet of mill timber daily, not less than 40 per cent. of the pulp wood to be gum and not less than 50 per cent. pine. Mr. Cotter's machine will cut and load the pulp wood on barges, each carrying 400 cords, and it cost \$25,000. He has taken over all the mill property of the Dare Lumber Co. at Elizabeth City, its tugboats and barges and 30 miles of rails in Dare county, and will expend \$100,000 on new equipment in that county for delivering the pulp wood and mill timber. He will regularly employ 500 men at least, and is building 100 homes for the white laborers near the big plant at Buffalo City, in Dare. This model town will have a moving-picture house, school, church and various attractions to attract and retain the best class of laborers of this line of work. The houses will be of an attractive design, with special water supply, electric lights and sanitary measures of the best type.

This great tract of land extends from the mouth of Long Shoal River up Pamlico, Croatan and Albemarle sounds to Alligator River, and up that stream to Hyde county. The pulp wood is inexhaustible, because it renews itself naturally as fast as it can be cut. None of the mill timber will be less than a foot in diameter.

### Manufacturing Ash Lumber in Louisiana.

Plaquemine, La., June 23—[Special.]—Joseph F. and Frank Lepke of St. Louis have constructed a sawmill at a point on Bayou Plaquemine, near this city, for the manufacture of lumber out of ash timber. The timber will be rafted from the Atchafalaya and adjacent swamps to the mill. The same firm will later put in drykilns and planing machines in connection with the sawmill.

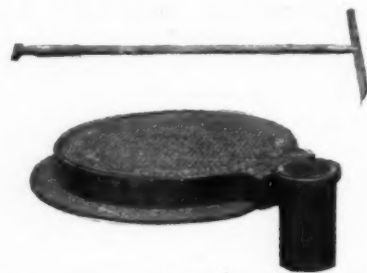
### A New Manhole Cover.

A marked advance in improvements upon the old type of manhole covers is shown in the newly patented "Ransehausen" pivot lock cover, which is now being placed on the market by the East Iron & Machine Co., Lima, O. This cover embraces features which eliminate many objections in the present type of manhole covers. The device consists of a locking and operating mechanism which not only keeps the cover locked securely in place, but is easily and automatically opened and operated with a key wrench.

The cover is applicable to all street and sidewalk cover plates which are used by street cleaning, sewer and water departments, telephone, telegraph, gas, elec-

tric light and power companies. It is also particularly desirable for coal-hole covers. The working parts are simple, compact and just three in number, and are enclosed in a moisture and dirtproof housing and packed in grease, thus eliminating rusting, freezing or adhesion.

The mechanism of the cover is operated by a key wrench having a "T" handle about three feet high. To



NEW MANHOLE COVER SHOWN LOCKED.

open the cover the key is inserted in a slot near the edge and by a turn of the key wrench the lock is released and the cover raised and pivoted away from the frame exposing the opening. To close, a turn of the wrench swings the cover back over its seat and automatically lowers and locks it to the seat. It can also be designed so that the key wrench cannot be removed until the cover is positively seated and locked.

Some of the advantages claimed for this patented



NEW MANHOLE COVER UNLOCKED AND PIVOTED FROM SEAT.

manhole cover are its complete safety and elimination of liability for damage suits; the cover, being locked, cannot be unseated or tipped by passing vehicles and the key wrench cannot be removed until the cover is locked; its simple mechanism enables one man to instantly unlock and operate the cover under all conditions of weather and temperature. This new manhole cover is designed to apply to any form of cover.

In addition to its applicability for all manhole cover purposes, another interesting use to which this patented cover has been put is for covering underground receptacles for refuse disposal and street cleanings, thus providing a sanitary system for solving this troublesome problem.

The East Iron & Machine Co. at Lima, O., will supply to city officials, engineers and public service companies full details regarding the adaptability of this patented device for all types of manhole cover purposes.

### Newport News Shipyard Additions.

Construction and machinery contracts are being awarded in connection with the Newport News (Va.) Shipbuilding & Drydock Co.'s \$850,000 expenditure, for additions and betterments, announced some months ago. This company has awarded a contract to the McClintic-Marshall Company of Pittsburgh for constructing a 560x80-foot erecting shop requiring 1000 tons of steel, also for 7000 tons of fabricating steel to construct shipways and crane runways for these shipways. It will also build a foundry extension to be equipped with a six-ton electric furnace purchased from the United States Steel Corporation. The contract for the electrical equipment for all the improvements has been awarded to the General Electric Co. of Schenectady, N. Y., and a complete equipment has been installed in the sand-blast department.



# Construction Department

## IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

### HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

### WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

### DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

### BRIDGES, CULVERTS, VIADUCTS

Fla., Bradenton.—Bridge Dist., comprising Bradenton and Palmetto, votes Aug. 1 on \$60,000 bonds to construct bridge between Bradenton and Palmetto, former to contribute \$45,000 and latter \$15,000. Address The Mayor of Bradenton or Palmetto.

Fla., Miami.—City, W. B. Moore, City Clerk, will construct bridge across Miami River; length 265 ft. between end piers; 20-ft. roadway; two 6-ft.-wide sidewalks; 6 piers and 5 steel deck spans with lumber floor, one span a double-leaf bascule; Harrington, Howard & Ash, Consult. Engrs., Kansas City, Mo.; bids received until August 2. (See Machinery Wanted—Bridge (Steel) Construction.)

Fla., Molino.—Escambia County Comms., Pensacola, let contract Virginia Bridge & Iron Co., Roanoke, Va., at \$11,795 to construct steel bridge across Escambia River; Geo. Rommell, Jr., Engr. (Lately noted in-viting bids.)

Fla., Panama City.—Bay County Comms., W. H. Marshall, Clerk, asks bids until July 10 on 5300 lin. ft. bridge construction complete with sub-structures, in connection with extensive road improvements for which \$380,115 bonds are available; E. V. Camp, Engr., Box 436, Panama City. See Road and Street Work. (See Machinery Wanted—Road and Bridge Construction.)

Ga., Newton.—Mitchell and Baker counties will expend \$20,000 to construct bridge across Flint River at Newton; steel; 16-ft. roadway; G. B. Bagges, Chrmn. Mitchell County Com., Camilla, Ga. (O. O. Worley, Clerk Mitchell County Comms., Camilla, Ga., lately noted authorized to obtain cost estimates.)

Ga., Montezuma.—Macon County Comms., Oglethorpe receive bids until July 10 for furnishing materials and constructing reinforced concrete bridge over Spring Creek, 1 mi. from Montezuma; bridge contain 80 or 90 cu. yds. concrete; first of number for which \$100,000 has been appropriated; plans, specifications forms of proposal, etc., at the office Clerk Comms., Oglethorpe, and office of Arthur Pew, Engr., Atlanta, Ga. (See Machinery Wanted—Bridge Construction.)

Ga., Woodbine.—Camden County will construct bridge; type not decided; considering

bascule or turntable construction; Wm. M. Torrens, Savannah, Ga., Consult. Engr.; H. P. Trimble, Clerk Board Roads and Revenues, Camden County, St. Marys. (Lately noted voting \$20,000 bonds for bridge across Satilla River.)

Md., Sparrows Point.—Baltimore & Ohio R. R. let contract H. S. Kerbough, Inc., 723 Munsey Bldg., Baltimore, to construct trestle across Bear Creek; length 1000 ft.

Okla., Oklahoma City.—Oklahoma City-Newcastle Bridge Co., capital \$150,000, inceptd. by Charles A. Schweinle, Floyd Thompson and M. D. Scott.

Tex., Wichita Falls.—Wichita County defeated \$20,000 bonds to construct bridge across Wichita River south of Iowa Park. (Noted in April as to vote.)

Va., Metomkin Point.—Washington-Newport News Short Line, Frank S. Gannon, Prest., 55 Liberty St., New York, will build bridge across Potomac River from Metomkin Point to Riverside, Md.; double-leaf bascule drawbridge; truss and girder approaches; draw 300 ft. wide; also build bridge across James River from Newport News to reach Norfolk.

Va., Sulphur Mines.—Mineral Belt Ry. Co., Berkeley Williams, Richmond, Va., Prest., will construct trestle approach, 300 ft. steel and concrete piers, in connection with 10½ mi. railway from Sulphur Mines to Valzinco, Va.; G. P. Clay, Contr., Richmond, Va.

W. Va., Berkeley Springs.—Morgan County asks bids until July 16 to construct 3 reinforced concrete arch bridges; plans by County Engr. E. L. Miller. (See Machinery Wanted—Bridge Construction.)

W. Va., Hamlin.—Lincoln County Court, Albert F. Black, Clerk, and Advisory Committee ask bids until Aug. 16 to construct bridge across Two-Mile Creek at West Hamlin and 4 small bridges or culverts; bridge across Upper Two-Mile Creek, near Sheridan Station; also 6 mi. road construction; J. M. Oliver, Engr., Huntington; date of opening bids from July 2 lately noted. (See Road and Street Work; see Machinery Wanted—Road and Bridge Construction.)

### CANNING AND PACKING PLANTS

Fla., Orlando.—Jelly, Vinegar, etc.—Commercial Groves Co., C. J. Earley, Gen. Mgr.,

Bradenton, Fla., will build 2-story, 100x50-ft., mill construction (expanded metal and stucco finish) factory; install steam jacket kettles, filling equipment, labelling machinery, etc.; products: jelly, vinegar, etc.; C. F. Brush, Engr., Bradenton. (See Machinery Wanted—Tanks.)

Fla., Pensacola.—Paul H. Brock of Pensacola Feed Co. and others are interested in plan to erect \$50,000 meat packing and storage plant.

Fla., Tampa.—Fruit Syrups.—Florida Syrup Co., Howard Curry, Prest., will build 150x75-ft. mill-construction plant; day labor; install cane grinding mills, evaporators, canning machinery, etc.; contemplates initial production of 250,000 gals. for first year; increase 250,000 gals. second year and continue increasing up to 1,000,000 gals. Lately noted inceptd., etc. (See Machinery Wanted—Canning Machinery, etc.)

Fla., West Palm Beach.—Florida Sea Food & Produce Co., capital \$25,000, inceptd.; Geo. W. Jones, Prest.; Clarence Hagerman, V.-P.; Adolph Heidelberg, Secy.-Treas.

Fla., St. Petersburg.—Universal By-Products Co. (J. F. Lavarne), Pittsburgh, Pa., is reported to build fish cannery; proposes using scraps for fertilizer and skins for leather.

S. C., Florence.—Director Canning & Preserving Co. organized by H. B. McCall, J. W. McCown, Eli Hill, J. A. Ziegler and others; Mr. Ziegler to be Gen. Mgr.

N. C., Newbern.—East Carolina Packing Co. proposed by Chamber of Commerce; to have capital \$100,000; build plant with daily capacity 100 to 150 hogs and 25 cattle; cost \$65,000; C. L. Brooks Engineering Co., Moultrie, Ga., will probably be engineer.

S. C., Columbia.—Community Cannery, capital \$1000, inceptd. by John Hughes Cooper and Mrs. Alma D. Weston.

### CLAYWORKING PLANTS

W. Va., Beckley.—Bricks.—Raleigh Brick & Tile Co. will operate at Lester, W. Va. Lately noted inceptd. (See W. Va., Lester.)

W. Va., Lester.—Raleigh Brick & Tile Co. inceptd., capital stock \$25,000; J. E. Summerfield, Prest.; Wm. Cannaday, V.-P.; Chas. Lewis, Secy.; erect buildings to cost \$3000 to \$4000; T. G. Sanders, Contr.; machinery purchased, cost \$2300; daily capacity 30,000 bricks.

### COAL MINES AND COKE OVENS

Ala., Coaling.—Minnie Coal Co., Birmingham, Ala., W. W. Shortridge, 1212 N. 28th St., Birmingham, Prest., will develop 200 acres; later output to be 100 tons daily. (Lately noted inceptd., capital \$10,000.)

Ark., Alix.—Semi-Anthractite Mining Co., capital \$24,000, inceptd. by Edward M. Doughat of Alix, John M. Ketchersid of Hope, Kans., and Grant Stauffer of Kansas City, Mo.

Ark., Fort Smith.—National Coal Mining Co., capital \$50,000, inceptd. by Seth S. Swift, V. A. Grady and John Brizzolara.

Ark., Fort Smith.—Hackett Excelsior Coal Co., capital \$2250, inceptd. by E. D. Dedwell, M. D. Dedwell and J. E. Elder.

Ky., Henderson.—Mid-West Fuel Co. organized with Enoch Bells, Prest., Edenburg, Pa.; Jos. Griffith, V.-P. and Gen. Mgr., Nantyglo, Pa.; Andrew B. Creekston, Secy.-Treas., Johnstown, Pa.; has coal and mineral rights on 2000 acres and options on 5000 additional acres.

Ky., Nolansburg.—Kellocka Coal Mining Co. organized; L. K. Rice, Prest.-Mgr.; R. B. Rice, Secy.-Treas.; develop 600 acres; daily capacity 5 cars; cost of mine equipment \$12,000. (Lately noted inceptd., capital \$15,000.)

Ky., Sergeant.—Whitley-Elkhorn Coal Co., J. M. Freeman, Mgr., will build tipples.

Ky., Stone.—Smith-Goff Coal Mining Co. organized with \$25,000 capital by Will D. Smith and others of Pikeville, Ky.

Ky., Utopia.—J. H. Ferrin, St. Louis, Mo., representing developing company, secured option on 10,000 acres in Green River Valley and will develop; will develop coal mines, cultivate grapes and apples and manufacture cider.

Ky., Whitesburg.—S. E. Baker, W. W. Sergeant and others leased Frazier coal land at mouth of Smoot Creek; will install mining plant.

Ky., Whitesburg.—Caudill Coal Co., Williamsburg, Ky., organized with E. S. Moss, Williamsburg, Prest.; M. J. Moss, Pineville, Ky., V.-P.; J. B. Snyder, Secy., and C. A. Moss, Treas.-Mgr., Williamsburg; develop 500 acres; daily capacity 10 cars. This supersedes recent information. (See Machinery Wanted—Mining Machinery.)

Mo., St. Louis.—Peacock Coal & Mining Co., capital \$40,000, inceptd. by S. A. J. E. and Edward Weissenborn.

Okla., Hartshorne.—Hartshorne Coal Co. organized; J. E. Layden, Prest.; Mamie McHugh, Secy.; Owen McHugh, Treas. and Mgr.; develop 300 acres; daily capacity, 150 tons. Lately noted inceptd., capital \$5000. (See Machinery Wanted—Mining Machinery.)

Okla., Poteau.—Adams Coal & Mining Co., capital \$12,000, inceptd. by Ed. McGregor, Poteau; C. B. Randall and H. L. Adams, Fort Smith, Ark.

S. C., Charleston.—Coal Briquettes.—C. E. Bockus, Prest. Clinchfield Fuel Co., 24 Broad St., New York, writes to Manufacturers Record: Experiments have been made with our coal in briquettes, but there has been no thought as yet of any definite location of plant at Charleston or elsewhere.

Tenn., Nashville.—Knoblock Mining Co., capital \$100,000, inceptd. by J. B. Ramsey, D. W. Ramsey and George E. Kannard.

Tenn., Oliver Springs.—Purity Coal Mining Co., capital \$10,000, inceptd. by C. J. Ladd, T. L. Ladd, Richard Ladd and others.

Tenn., Tracy City.—Tracy City Coal Co., capital \$50,000, inceptd. by S. M. Chambliss, S. R. Roddy, J. S. Winkle and others.

Tenn., Knoxville.—Cambria Coal Mining Co. organized; C. W. Henderson, Prest. and Treas.; L. D. Tyson, V.-P.; Samuel Buffall, Secy.; develop 4000 acres; daily capacity 300 tons; later increase to 750 tons; no machinery required. (Noted inceptd. in May.)

Tex., Greenville.—Higraide Lignite Co., capital \$10,000, inceptd. by F. J. Phillips, J. D. Middleton and Walter Anderson.

Va., Roanoke.—Banner Pochontas Fuel Corp., capital \$50,000, chartered; O. L. Stearns, Prest.; E. S. Barnitz, Secy.; both of Salem, Va.

W. Va., Buckhannon.—Mudlick-Run Coal Co., capital \$25,000, inceptd. by Jas. F. Smith, A. M. Wetzel, D. Hoover and others.

W. Va., Caperton.—Sewell Smokeless Coal Co., capital \$100,000, inceptd. by C. I. Leftwich of Thurmond, W. Va.; J. R. Charlton and H. C. Moore of McDonald, W. Va., and others.

W. Va., Clarksburg.—Talbot Coal Co., 402 Goff Bldg., organized; J. J. Johnson, Prest., Bridgeport, W. Va.; E. H. Bell, V.-P.; A. L. Talbot, Secy.-Treas.-Mgr.; both of Clarksburg; develop 5 acres; daily output 2 carloads coal. (Lately noted inceptd. with \$5000 capital.)

W. Va., Clarksburg.—Valley Run Coal Co., 537 Empire Bank Bldg., organized; W. J. Calvert, 230 N. 6th St., Prest.; O. C. Fisher, Cor. Sycamore and Locust Sts., V.-P. and Supt.; Chas. E. Gay, 175 W. Main St., Secy.; C. A. Henderson, 702 Mulberry St., Treas.; develop 1 acre; daily capacity, 50 tons. (Lately noted inceptd., capital \$5000.)

W. Va., Fairmont.—North Fairmont Coal Co., capital \$50,000, inceptd. by W. D. Reed, W. H. Spedden, T. L. Rowland and others.

W. Va., Fairmont.—Fairmont Fuel Co., capital \$25,000, inceptd. by Chas. W. McDonald, C. C. McDonald, C. W. Fleming and others.

W. Va., Fairmont.—Fairmont & Clarksburg Fuel Co., capital \$100,000, inceptd. by Alex. R. Watson, W. D. North, Oliver Hayward and others.

W. Va., Fairmont.—Hoult-Sewickley Co., capital \$15,000, inceptd. by Thos. S. Neptune, H. H. Staggars, Chas. E. Hawker and others.

W. Va., Huntington.—Boone Block Coal Co., capital \$50,000, inceptd. by F. F. Starcher, E. L. Miller, O. Brown and others.

W. Va., Logan.—Guyan Mining Co., capital \$100,000, inceptd. by F. Middleburg, A. C. McConaughy, M. M. Middleburg and others.

W. Va., Logan.—Bison Coal Co., capital \$100,000, inceptd. by J. B. McCormick, W. H. Tidman, A. A. Hamilton and others; leased 4000 acres coal land and will develop.

W. Va., Logan.—Red Campbell Coal Co., capital \$100,000, inceptd.; J. F. Johnson,

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Pres.; John Faulkner, V.-P.; W. F. Campbell, Secy.-Treas.; Wm. Brown, Mgr.; succeeds Flynn-Halslip Coal Co.; develop 175 acres; daily output 200 tons.

W. Va., Mahan.—Eagle By-Products Coal Co., 403 Davidson Bldg., Charleston, W. Va., organized with C. E. Krebs, Pres.; C. W. Morton, Secy.-Treas.; H. T. Smarr, Mgr.; all of Charleston; John A. Greene, Supt., Mahan; develop 2518 acres coal lands; daily capacity 600 tons; Clark & Krebs, Engrs., Charleston.

W. Va., Montgomery.—M. J. Sims, W. K. Bridges and O. J. Henderson purchased coal land on Armstrong Creek and will develop; erect tipples.

W. Va., Morgantown.—Greens Run Coal Co., capital \$10,000, inctpd. by Edwin D. Williams, Chas. E. Watson, Jas. R. Moreland and others.

W. Va., Peach Creek.—H. C. Jones, L. E. Steele, R. E. Petty and others purchased E. R. Johnson Coal Co.'s properties, comprising 2000 acres coal land; double present output of 5000 tons monthly.

W. Va., Williamson.—Kentucky Pond Creek Coal Co., capital \$50,000, inctpd. by J. Levine, Wm. York, A. B. York and others.

### COTTON COMPRESSES AND GINS

Ark., Walnut Ridge.—Union Gin Co., capital \$5000, inctpd. by W. R. Lane, J. D. Doyle, J. R. Spence and others.

Miss., Drew.—Planters' Gin Co., capital \$7500, inctpd. by J. C. Newton, S. P. Rich, A. R. Stokely and others.

Tenn., Madisonville.—Madisonville Gin Co., capital \$10,000, inctpd. by A. S. Jenkins, H. E. Magill, W. H. McCroskey and others.

Tex., Bruceville.—Electric Gin Co., capital \$10,000, inctpd. by G. E. Kincannon, Nolan Taylor and B. T. Edwards.

### COTTONSEED-OIL MILLS

Ark., Camden.—Onachita Cotton Oil Co., capital \$60,000, inctpd. by W. H. Warnock, T. S. Grayson, D. P. Baker and others.

Ga., Grantville.—Grantville Cotton Oil Co., capital \$36,000, inctpd. by W. N. Banks, E. M. Camp and C. S. Colley.

S. C., Carlisle.—Carlisle Cotton Oil Co., capital \$20,000, inctpd. by M. C. Deaver, W. H. Gist and C. A. Jeter.

### DRAINAGE SYSTEMS

Ark., Marianna.—Phillips Drainage Dist. organized with W. S. McClintock and M. H. Ford of Marianna, and Chester Jones of Lexa, Ark., as Commrs.; construct drainage system to reclaim Cypress and Flat Fork sections, embracing 45,000 acres cotton lands; 2 canals with combined length of 23 mi.

Ark., Pine Bluff.—Flat Bayou Drainage Dist. organized; J. F. Quattlebaum, Pres.; Parkes Engineering Co., Engr., Pine Bluff; construct drainage system, reclaiming 18,000 acres between Althelmer and Sherrill; cost \$70,000.

Fla., Fort Lauderdale.—Napoleon B. Broward Drainage Dist. organized; Scipvs. include W. C. Kyle, Fort Lauderdale; A. B. Lowe, Davie, Fla.; and R. O. Watson of Miami, Fla.; A. L. Joiner, Fort Lauderdale, Secy.; district includes about 528,000 acres, practically within Everglades; drain lands for cultivation; levy tax of 25 cents per acre for organization and preliminary expenses; contemplates appointment of chief engineer at meeting June 25.

Fla., Tallahassee.—Everglades Drainage Dist. contract for Dania Drainage Canal (lately noted let by Commrs. to Megathlin & Clark, Drawer 918, Miami, Fla.) includes removal of 900,000 yds. earth and 325,000 cu. yds. rock; canal 6 mi. long, 60-ft. bottom width, to increase gradually to 72 ft. at out-fall end; C. E. Elliott, Chief State Drainage Engr. (Further facts lately noted.)

Miss., Greenville.—Black Bayou Drainage Dist. will construct 133 mi. drainage ditches; let contracts July 19 (postponed date); excavate 970,000 cu. yds. earth, work for 3 drag-line machines, and 3,700,000 cu. yds. earth, requiring 7 floating dipper dredges; Morgan Engineering Co., Dist. Engr., 608 Goodwyn Institute Bldg., Memphis, Tenn. Contract lately noted for earlier date. District was noted organized in Sept., 1916, O. C. Kulicka, Secy.; acreage 100,000; total cost of contemplated improvements, including legal, engineering and administrative expenses, estimated at \$575,000; Morgan Engineering Co. then about to commence survey. (See Machinery Wanted.—Drainage.)

Mo., Benton.—Big Lake Drainage Dist., Charleston, Mo., will proceed with drainage; Berthe Engineering Co., Charleston,

Engr., advises Manufacturers Record: Main ditch and 10 laterals, including 1½ mi. tile work, silt basins, bulkhead and combination bridge and spillway; total mileage 34½; 1,100,000 cu. yds. excavation; 1,050,000 yds. floating dredge work; 50,000 yds. scraper work; drain 19,000 acres in Mississippi and Scott counties for agriculture; district boundary 1½ mi. north of Charleston, Mississippi County; total cost of drainage construction \$215,000; amount of \$50,000 completed. (Contracts lately noted let to Sternberg Bros., St. Louis, for ditch work, and to A. J. Wheeler, Charleston, Mo., for tile work; contract price about \$140,000; dredging machinery is supplied.)

Okla., Muskogee.—Muskogee County Commissioners, T. P. Clouts, County Engr., will drain about 4000 acres between Muskogee and Ft. Gibson for agriculture; cost \$50,000; mainly levee and revetments; 8-ft. bottom canals; no bids. (Lately noted.)

Tenn., Huntingdon.—Drainage Dist. No. 1 of Carroll County, F. T. Tobey, Engr., opens bids July 14 for 1,200,000 cu. yds. open-ditch work; including laterals, length of canals will be 48 miles; bottom width 6 to 4½ ft., with side slopes of 1 to 1; construction by floating dredge boats for main canals and team work for small laterals; one 3-yd. floating dredge and two 1-yd. machines; ask for bids on each section and then on entire work; no pumping plants or levees; bonds for \$140,000; district is in central part Carroll county; draining Beaver, Crooked Briar, Gwins and Clear creeks and Middle Fork of Obion River; 15 ditches; improvement will drain 12,500 acres for farming; previously noted. (See Machinery Wanted.—Drainage Construction.)

Reño, is acquiring Enid Electric & Gas Co. and Muskogee Gas & Electric Co., which already owns Sapulpa Electric Co.; acquired new properties at Norman, Yukon, Drumright, Hennessey and Kiefer; will construct transmission lines to tie in these and probably other communities to centrally located power stations; certain extensions will enter Cushing and Glenpool oil districts, where electric power is widely used for pumping wells; increase power production capacity at Muskogee and elsewhere as rapidly as necessary to serve growing demands; present financing consists of \$2,250,000 two-year 6 per cent. gold notes, which will retire floating debt, including purchase of properties and retire \$228,500 debenture bonds and furnish funds for extensions and improvements; properties have successful records and now serve 43,000 electric and gas customers.

Okla., Stillwater.—Oklahoma Agricultural & Mechanical College, F. M. Redlick in charge, will install electrical equipment for science hall and gymnasium armory building, costing \$100,000 each.

Okla., Supply.—City votes June 25 on \$6000 bonds to install electric-light system. Address The Mayor.

Okla., Wilson.—City voted \$35,000 for extensions to water and electric-light systems; \$10,000 for electric lights and \$25,000 for water-works; Benham Engineering Co., Engr., Oklahoma City. (Lately noted to vote.)

Tex., Houston.—Texas Resources Development Co., Beatty Bldg., meets June 29 to consider increasing capitalization from \$4,000,000 to \$6,000,000.

## THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Pages 84 and 85

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

Rate 25 cents per line per insertion.

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Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

### ELECTRIC PLANTS

Md., Baltimore.—Consolidated Gas Electric Light & Power Co., A. L. Loizeaux, Elec. Engr., Lexington Street Bldg., will build new section to present boiler-house at Westport; house six 1000 H. P. boilers and auxiliary equipment; has let contracts, nearly all as duplicated of former contracts.

Miss., Lambert.—City, W. M. Womack, Mayor, will construct sewer, cost \$20,000; Engr., M. H. James, Sumner, Miss.; issued bonds for electric-light plant and sewer construction; let contract July 3. Lately noted as voting bonds. (See Machinery Wanted.—Sewer and Electric-light Construction.)

Miss., Lambert.—City issued \$12,000 bonds to construct electric-light plant; let construction contract July 3; M. H. James, Engr., Sumner, Miss.; W. M. Womack, Mayor. (See Machinery Wanted.—Sewer and Electric-light Construction.)

Mo., St. Joseph.—St. Joseph Light, Heat & Power Co., Second and St. Felix Sts., will erect addition to power-house; cost \$10,000.

N. C., Apex.—City, J. F. Mills, City Clerk, asks bids until July 11 to construct 5-mi. transmission line, sub-station building, arc light and distributing systems; B. O. Austin, Consult. Engr., Charlotte, N. C. (See Machinery Wanted.—Electric-light Improvements.)

Okla., Binger.—Robt. Baker is interested in construction of electric-light plant.

Okla., Oklahoma City.—Oklahoma Gas & Electric Co. increased capitalization from \$5,100,000 to \$50,000,000; to extend operations throughout State and provide for future contingencies on extensive scale, including construction of additional electric stations and transmission systems; H. M. Byllesby & Co., Engrs.-Mrgs., Chicago, wires Manufacturers Record: Oklahoma Gas & Electric Co., heretofore serving Oklahoma City and El

### FERTILIZER FACTORIES

N. C., Greensboro.—Swift & Co. (main office, Chicago) is reported to build fertilizer factory; building to cost \$40,000 to \$50,000.

### FLOUR, FEED AND MEAL MILLS

Ark., Alpena Pass.—W. P. Hall will install flour mill.

Ark., Marmaduke.—Cary Milling Co., capital \$5000, inctpd. by Alvin Cary, C. E. Porter and T. W. Benson.

Ga., Macon.—Lee Barfield of Barfield & Brown purchased building; will remodel and equip as feedmill; daily capacity 10 cars feed; handle corn, velvet beans, etc., and manufacture feed containing molasses.

Mo., Calhoun.—Farmers' Co-operative Co., capital \$6000, inctpd. by Thos. Sheppard, R. H. Garrett and J. W. Boyd.

Mo., Pierce City.—J. W. Vance Milling Co. organized; Robt. P. McReynolds, Pres.-Mgr.; E. C. Vance, Secy.; has plant, equipped with machinery; cost about \$50,000. (Lately noted inctpd.)

Okla., Carnegie.—R. N. and E. T. Schooling has completed plans for erection of 50-bbl. flour mill.

Tenn., Dowlstown.—Monroe Bryan Milling Co., capital \$10,000, inctpd. by S. J. Chapman, J. C. Starke, Geo. D. Monroe and others.

### FOUNDRY AND MACHINE PLANTS

Ga., Marietta.—Foundry, etc.—Glover Machine Works, J. J. Spalding, Jr., 1204 Third National Bank Bldg., Atlanta, Ga., Secy., will erect brick and steel forge shop; construction by the company; electric melting and refining furnace contract let to John A. Crowley Co., Detroit, Mich.; furnace ready in 5 months; completed foundry building, which has main bay 40 ft. wide, spanned by electric traveling crane of 15 tons capacity,

crane runway having total length 370 ft. (Lately noted.)

La., Ged.—Iron Works and Machine Shop.—Ged Iron Works, capital \$7500, inctpd.; C. K. Gribble, Pres.; S. J. McGee, V.-P.; T. T. Damon, Secy.-Treas.

La., Shreveport.—Tools, etc.—Pelican Co. is reported to erect foundry, tool and oil well supply plant.

Md., Towson.—Special Machinery.—Black & Decker Mfg. Co., 105-115 S. Calvert St., has plans by Herman F. Doeleman, 1101 American Bldg., Baltimore, for factory building and boiler-house; 1 story; 60x200 ft.; following will submit bids: Consolidated Engineering Co., Calvert Bldg.; Cowan Building Co., 106 W. Madison St.; Henry Smith & Sons Co., German and Light Sts.; Chas. L. Stockhausen Co., Marine National Bank Bldg.; all of Baltimore; Wm. Amrein, Glenarm, Md.; W. K. Burns, Towson; Paul Case, Westminster, Md.

N. C., Henderson.—Iron Works.—Vance County Iron Works will enlarge plant; erect additional buildings, cost \$10,000; lately (as "Vance Iron Works") noted inctpd., capital \$50,000. (See Machinery Wanted.—Steel "I" Beams, etc.)

Okla., Ardmore.—Wrenches.—Ardmore Wrench Co., capital \$40,000, inctpd. by Jas. B. Coffey, J. M. Patrick and Tom Champion.

Okla., Shawnee.—Screw Drivers.—Monroe Power Screw Driver Co., capital \$25,000, inctpd. by George B. Dowdy, D. C. Monroe and H. B. Hause.

Va., Suffolk.—Peanut Pickers, etc.—Ferguson Mfg. Co., capital \$50,000, inctpd. to manufacture peanut pickers, farming implements, etc.; Walter C. Ferguson, Pres.; Geo. R. Debnam, Jr., V.-P.; T. H. Debnam, Gen. Mgr. and Treas.; E. Carl Ferguson, Secy.; has plant. (See Machinery Wanted.—Steel.)

### GAS AND OIL ENTERPRISES

Ky., Mt. Sterling.—Ben. W. Hall of Mt. Sterling, C. C. Turner of Frankfort, Ky., and J. B. Ledford of Frenchburg, Ky., organized company with \$100,000 capital to develop 1275 acres oil land in Menifee County.

La., Shreveport.—Gasoline.—H. D. Gray Petroleum Co., H. D. Gray, Pres., plans to build gasoline plant to extract gasoline from natural gas or casing head gas from oil wells. (Lately noted inctpd. with \$25,000 capital.)

Mo., Kansas City.—Colvin-Belt Oil Co., capital \$32,000, inctpd. by Geo. F. Belt, Geo. B. Colvin and John B. Gage.

Mo., Kansas City.—Oil Refinery.—Cumberland Petroleum & Refining Co., capital \$1,000,000, inctpd. by John T. Sever of Kansas City, Mo.; R. C. Clapp and U. S. Barr of Wichita, Kan.

Mo., Kansas City.—Filling Station.—Standard Oil Co. will erect filling-house; 2 stories; brick; cost \$3000.

Mo., Kansas City.—Dietrich Oil Co., capital \$75,000, inctpd. by J. E. Dietrich, F. H. Oliver and Wm. H. Baldwin.

Mo., Kansas City.—Victor Oil Co., capital \$100,000, inctpd. by William B. Keel, J. R. Irwin and Ashby Woodson.

Okla., Enid.—Butts Oil & Gas Co., capital \$10,000, inctpd. by O. A. Triplett, Jesse T. Butts and Carl Kruse.

Okla., Henryetta.—Oil Refinery.—Bookertee Smelting & Refining Co., capital \$1,000,000, inctpd. by F. R. Bouldin, S. Walker and V. V. Grant.

Okla., Newkirk.—Case Oil Co., capital \$10,000, inctpd. by A. L. Case and W. R. Case of Newkirk, and F. C. Hoyt of Wichita, Kan.

Okla., Pawhuska.—Osage & Kentucky Oil & Gas Co., capital \$60,000, inctpd. by Chas. M. Cope of Pawhuska, G. C. Bolton, Jr., and S. S. Mathis of Fairview, Okla.

Okla., Pawhuska.—Beaver Creek Oil & Gas Co., capital \$12,000, inctpd. by R. L. Gail, Albert Jackson and H. G. Carson.

Okla., Tulsa.—Central Union Oil Co., capital \$25,000, inctpd. by W. H. Kiser, J. D. Hull and Hess McKnight.

Okla., Tulsa.—Horlis Oil & Gas Co., capital \$75,000, inctpd. by H. D. Cornell, Bernard Douglas and Ray S. Fellows.

Okla., Tulsa.—Oil Refinery.—Allied Refining Co., capital \$150,000, inctpd. by W. P. Henry and F. R. Letcher, Tulsa; E. L. Robinson, New Martinsville, W. Va.

Tenn., Nashville.—Wayne Oil & Gas Co., capital \$25,000, inctpd. by John H. De Witt, R. H. Steinman, Verner Fuller and others.

Tex., Fort Worth.—Oil Refinery.—Humble Oil & Refinery Co., capital \$4,000,000, inctpd. with R. S. Sterling, Pres.; build refinery



with daily capacity 3000 bbls.; gasoline to be principal product.

Tex., Houston.—Allison Oil Co., capital \$30,000, inceptd. by W. C. Allison, Am Stirtion and J. R. Check.

Tex., Houston.—Goose Creek Extension Oil Co. inceptd. by H. L. Yates, W. B. Walton and R. L. Chaudoin.

Tex., Humble.—Torbett Oil Co., capital \$6000, inceptd. by W. C. Torbett, Reid Rikard and G. S. Shannon.

### ICE AND COLD-STORAGE PLANTS

La., New Orleans.—Appalachian Corp., Louis B. Magid, Prest., Atlanta, Ga., purchased Brookland Cooperage building; expend several hundred thousand dollars to equip structure with cold-storage plant; 900,000 to 1,000,000 cu. ft. cold-storage space; convert remainder into bonded public warehouse; Diboll & Owen, Archts., New Orleans.

Okla., Picher.—Central Ice & Water Co. organized; Otis O. Crane, Dearing, Kans., Prest.; Geo. Hammill, V.-P.; L. A. Kain, Picher, Secy.; Alex. Crook, Mgr.; erect mill-construction buildings, cost about \$8000; install 10-ton machine; Alex. Crook, Oronogo, Mo., Const. Engr. (Lately noted inceptd., etc., capital \$16,500.)

Tex., Houston.—Rio Grande Ice Assn., R. W. Horloch, V.-P., Navasota, Tex., will build ice and cold-storage plant; brick; electric power; purchased machinery; building plans being prepared; whole cost \$150,000.

### IRON AND STEEL PLANTS

Mo., St. Louis.—Iron Furnace.—Ozark Iron & Furnace Co. increased capital from \$60,000 to \$100,000.

Tenn., Dayton.—Iron Furnace, etc.—Harry S. Matthews, Prest. Matthews Iron & Steel Co., Rome, Ga., purchased Dayton Coal & Iron Co. for \$400,000; plans organization of corporation and expenditure of \$100,000 to modernize and improve plants; properties include iron furnace, coal mines, coke ovens, iron mines, lands, buildings, etc., in Tennessee and Georgia.

Tex., Fort Worth.—Steel Furnaces, etc.—Texas Rolling Mill Co. increased capital from \$240,000 to \$650,000 and changed name to Geo. W. Armstrong & Co., Inc.; also merges with Osage Iron & Steel Co., Sand Springs, Okla. (Lately noted to install open-hearth furnaces, bar and billet mills, etc.)

Va., Goshen.—Iron Furnace, etc.—Southern Iron Corp. purchased Victoria Iron Co.; properties include Goshen furnace, 4000 acres land, limestone quarries, iron mines, etc.

### IRRIGATION SYSTEMS

Tex., Carizzo Springs.—Frank S. Taylor, Engr. (representing Eastern capitalists), will survey lands on Neuces River preliminary to construction of irrigation system for 15,000 acres land; reported to have option on portion of 200,000-acre ranch.

### LAND DEVELOPMENTS

Ala., Huntsville.—Abingdon Cotton Mill purchased 97-acre site and will improve as mill village; erect 60 houses.

Ala., Mobile.—Southern Orchard Homes Co., capital \$67,500, inceptd.; J. L. Givan, Prest.; A. McCarthy, Secy.-Treas.; both of Albany, N. Y.

Ala., Mobile.—Independent Land Co., capital \$5000, inceptd.; Walter G. Beville, Prest.; Moses Kohn, Secy.-Treas.

Ark., Little Rock.—Arlington Heights Land Co., capital \$50,000, inceptd. by J. R. Vinson, E. A. Robbins and J. S. Stillwell.

Ky., Utopia.—J. H. Ferrin, St. Louis, Mo., representing developing company, secured option on 10,000 acres in Green River Valley; will cultivate grapes and apples, manufacture cider and develop coal mines.

La., Shreveport.—Sunflower Planting Co., capital \$100,000, inceptd.; R. L. Klatz, Prest.; O. P. Gahagan, V.-P.; C. P. Munday, Secy.; Carl Svarva, Treas.

La., Shreveport.—Washburn Land Co., capital \$25,000, inceptd.; H. A. Bauman, Prest.; Mack Wellman, V.-P.; H. R. Strube, Secy.-Treas.

Md., Baltimore.—Marley Neck Land Co., capital \$60,000, inceptd. by Robt. Garrett, John W. Frick, Ralph C. Sharretts and Horatio Turner.

Tenn., Chattanooga.—North Side Farms Co., capital \$10,000, inceptd. by Joe W. Clift, Chas. E. Watson, C. S. Shock and others.

Tex., Beaumont.—City votes August 7 on

\$100,000 bonds to purchase and improve park property. C. L. Scherer, City Engr.

Va., Lynchburg.—Lynchburg Industrial Development Corp., capital \$150,000, chartered; W. J. D. Bell, Prest.; Thos. A. Scott, Secy.

### LUMBER MANUFACTURING

Ala., Sylacauga.—Coosa County Lumber & Mfg. Co. organized to build saw and planing mill; purchased timber land in Coosa County; construct roads to bring timber to Sylacauga to be manufactured.

Ark., Star City.—Hudgeon Lumber Co. organized; W. A. Echols, Prest.; Richard Reid, Secy.; will install complete sawmill equipment. Lately noted to install pine mill of 25,000 ft. daily capacity. (See Machinery Wanted—Sawmill Equipment.)

Fla., Live Oak.—Econpena Lumber Co. (lately noted to rebuild burned plant) will install mill equipment for daily capacity 75,000 ft. yellow-pine lumber; machinery to include mill, electric-light plant, boilers, engines, etc. (See Machinery Wanted—Sawmill; Electric-light Plant.)

La., Barham.—W. R. Pickering Lumber Co. will rebuild mill, dry kiln and shop lately noted burned.

La., Couchwood.—Weaver-Hearne Lumber Co. will rebuild dry kiln lately noted burned.

La., Dubach.—Dubach Lumber Co. will rebuild burned plant.

Md., Baltimore.—John C. Foster will rebuild planing mill burned at loss of \$7000.

Miss., Amory.—E. D. Briggs will rebuild planing mill lately reported burned at loss of \$10,000.

Miss., Bay St. Louis.—Wena Lumber Co. will rebuild plant reported burned at loss of \$75,000.

N. C., Tyro, P. O. at Spencer.—Baxter Leonard will rebuild burned plant.

S. C., Charleston.—Mantague Corp., capital \$350,000, chartered by E. H. Jennings and W. P. Montague.

S. C., Florence.—Giles Bay Lumber Co. organized with J. E. Justice, Prest., Mobile, Ala.; W. R. Ricks, V.-P.; C. V. McCreight, Secy.-Treas.; both of Pittsburgh, Pa.; has 32-acre site; erect band-saw mill with monthly capacity of several million feet lumber; main offices in Pittsburgh. (Lately noted inceptd. under S. C., Ricks, with \$25,000 capital.)

Tex., Gladstell.—Grogan-Cochran Lumber Co., capital \$20,000, inceptd. by W. R. Grogan and Geo. L. Grogan of Gladstell, and T. M. Cochran of Tamina, Tex.

Tex., Gladstell.—Grogan-Cochran Lumber Co., capital \$20,000, inceptd. by W. R. Grogan and Geo. L. Grogan of Gladstell, and T. M. Cochran of Tamina, Tex.

Va., Glamorgan.—Tidewater Lumber Co. purchased additional timber boundary on Indian Creek for development.

W. Va., Fairmont.—Century Lumber Co., capital \$20,000, inceptd. by A. J. Colburn, W. F. Shaffer, E. F. Holbert and others.

### METAL-WORKING PLANTS

Mo., Kansas City.—Bed Springs.—Hercules Spring Bed Co. (subsidiary of Cleveland Wire Springs Co., Cleveland, Ohio) leased 2-story building, 75x115 ft., at 1323-27 W. Ninth St.; manufacture bed springs exclusively; C. H. Minurn, Mgr.

### MINING

Ala., Birmingham.—Iron.—Birmingham-Clinton Ore Co., capital \$5000, inceptd.; J. B. Cooper, Prest.; John R. Boyle, V.-P.; Spier Whitaker, Secy.-Treas.

Ala., Jamestown.—Lead and Silver.—Jamestown Lead Mining Co., Birmingham, Ala., (promoted by Cherokee Mineral Co., First National Bank Bldg., Birmingham), will develop 120 acres in Cherokee County; J. E. Dunlop (formerly of Great Britain), Engr.; J. T. Robinson, Prest., Montgomery, Ala.; J. E. Ellis, V.-P.; W. H. Willson, Secy.-Treas.; both of Birmingham. (Jamestown Lead Mining Co. lately noted organized; Cherokee Mineral Co. noted organized in May.)

Ark., Slatington.—Slate, etc.—United Slate Mining & Realty Corp., 425 Reserve Bank Bldg., Kansas City, Mo., organized; Frank Denise, Prest.; F. Chubb, V.-P., both of Slatington; C. L. Horning, Kansas City, Mo., Secy.-Treas. and Mgr.; develop 5000 acres; slate, also manganese, lead, copper, zinc, silver. Lately—under Mo., Kansas City—lately inceptd., capital \$50,000. (See Machinery Wanted—Grinding Machinery.)

Ark., Yellville.—Zinc.—Franklin Zinc Co., capital \$50,000, inceptd. by F. N. Matthews, A. M. Elton and W. L. Davenport.

Ark., Yellville.—Kennedy Mining Co., capital \$85,000, inceptd. by A. H. Markle, Frank M. Kennedy and J. H. Hand.

Mo., Kansas City.—Lead and Zinc.—Faith Mining Co., capital \$10,000, inceptd. by A. E. Reece, J. W. Collins and D. F. Balthis.

N. C., Greensboro.—Sand and Stone.—Piedmont Sand & Stone Co., capital \$25,000, inceptd. by Frank L. DeVane, Box 571, Greensboro; A. F. Messick and R. C. Humphries of Winston-Salem, N. C.; will produce sandstone and gravel for buildings and sand for foundries, fertilizer filler, etc.; when organization is completed will need machinery; recent item partially incorrect. (See Machinery Wanted—Quarrying (Sand and Gravel) Machinery.)

Okla., Vinita.—Bluefield Mining Co., capital \$10,000, inceptd. by P. E. Overton, Lulu May McCulloch and K. D. Sheldon.

Tenn., Knoxville.—Tennessee Mining Co., capital \$100,000, inceptd. by C. S. Manus, M. C. Monday, C. G. Wayland and others.

Tex., Pecos.—Sulphur.—West Texas Sulphur Co., 607 Finance Bldg., Philadelphia, Pa., will develop 600 acres; estimated daily capacity 50 tons pure sulphur; all machinery purchased, cost \$50,000; D. S. Edington, Prest.; Julius A. Bailey, V.-P.; Chas. E. Doddridge, Secy.-Treas.; all of Philadelphia; M. S. Blackburn, Mgr., Pecos. (In April noted to install crushing plant of 300 tons daily capacity; previously reported organized, etc.)

### MISCELLANEOUS CONSTRUCTION

Ala., Mobile.—Telfer System.—City voted \$55,000 bonds to construct telfer system; this is city's pro rata of \$130,000 overhead railway system connecting municipal wharves and wharves of Mobile & Ohio R. R. and Southern Ry. with warehouses of Magnolia Compress Co.; later electorate will pass on proposition of voting \$600,000 bonds for Arlington docks; Harry Pillans, Mayor. (Lately noted to vote, etc.)

Ark., Little Rock.—Mausoleum.—Southwestern Mausoleum Co., 817 Southern Trust Bldg., is ready for bids on 200-crypt compartment mausoleum; steel-reinforced concrete structure; limestone or granite exterior; marble interior; especially desires correspondence with contractors experienced in mausoleum work; also interested in materials bids; Thompson & Harding, Archts., Little Rock. Noted in March. (See Machinery Wanted—Building Materials.)

Fla., Jacksonville.—Dock.—Clyde Steamship Co. (general offices Pier 36, North River, New York), W. M. Tupper, Supt., Jacksonville, will erect dock of creosoted piling and lumber; warehouse of wood and iron; dimensions 125x400 ft. (Contract lately noted let to W. P. Richardson & Co., Jacksonville, for construction of Pier No. 1, with passenger office at head of pier.)

Ga., Augusta.—Bank Protection.—U. S. Engr. Office, Savannah, Ga., will contract for bank protection work; bids until July 20. (See Machinery Wanted—Bank Protection.)

La., Monroe.—City appropriated \$15,000 to construct wharves and warehouses. Address The Mayor.

Mo., St. Louis.—Coal Bin.—Missouri Can Co. will erect coal bin; 1 story; concrete; cost \$5000; H. O. Hirsch, Contr.

Okla., Muskogee.—Levees, Etc.—Muskogee County Commrs., T. P. Cloats, County Engr., Muskogee, will expend \$50,000 on drainage work, including levee and revetment construction; no bids. (See Drainage Systems.)

Tenn., Chattanooga.—Retaining Wharf Wall.—City will expend about \$25,000 to construct retaining wharf wall on piers along low-water mark of Tennessee River; cut-stone wall on concrete footing 8 ft. wide, 18 in. deep, 420 ft. long. (Contract lately noted let to M. C. Monday, Knoxville, Tenn.)

Va., Petersburg.—Plumbing.—Quarter-master-General's Dept., Washington, D. C., let contract W. H. Harrison Co. & Thomas of Petersburg to construct plumbing at cantonment camp; estimated cost, \$500,000.

### MISCELLANEOUS ENTERPRISES

Ga., Macon.—Fireproofing.—Dixie Fireproofing Co., capital \$5000, inceptd. by W. P. Stevens, Jr., and others.

Ga., Valdosta.—Grain Elevator.—South Georgia Milling Co. has completed plans for grain elevator with capacity of 75,000 bu.

Md., Baltimore.—Cantonment Contractor.—Furst-Miller-Morrow Construction Co. organized with \$1,000,000 capitalization to contract for cantonment construction; first bid is for army cantonment at Annapolis Junction.

tion; Frank A. Furst, Prest.; J. Henry Miller, V.-P.; Wm. H. Morrow, Secy.-Treas.; Norton, Bird & Requaardt, Engrs.-Archts.

Miss., Meridian.—Laundry and Cleaning Plant.—Exceller Steam Laundry & Cleaning Works, capital \$12,000, inceptd. by M. W. Rely and A. N. Rely of Meridian, and B. Hamilton of Belief, Miss.

Mo., Clinton.—Grain Elevators.—Farmers' Elevator Supply Co., capital \$10,000, inceptd. by J. W. Scherff, F. W. Rice and E. H. Hoppe.

Mo., Kansas City.—Construction.—Kennedy-Olson Construction Co., capital \$3000, inceptd. by W. P. Kennedy, W. B. Olson and E. P. Kennedy.

Mo., Kansas City.—Publishing.—Geo. Shotwell Publishing Co., capital \$4000, inceptd. by Jas. H. and Chas. Stotwell and Geo. W. Campbell.

Mo., St. Louis.—Power-house Supplies, etc.—Girtanner Mfg. & Sales Co., capital \$10,000, inceptd. by Fred Girtanner, Herman Mueller, Lester L. Kraft and others.

Mo., St. Louis.—Construction.—Miller-Wiese Construction Co., capital \$10,000, inceptd. by Fred Wiese, O. A. Miller and Peter W. Wiese.

Okla., Tipton.—Grain Elevator.—W. Ray of Frederick, Okla., plans erection of grain elevator.

Tenn., Memphis.—Cleaning.—French Method Cleaning Co., capital \$5000, inceptd. by Phil Goodman, Clyde Huddleston, Albert Dreyfus and others.

Tenn., Nashville.—Optical.—Roskind Optical Co. inceptd. by H. G. Roskind, Sallie E. Roskind, Louise Horn and others.

Tex., El Paso.—Publishing.—Hudspeth Directory Co., capital \$5000, inceptd. by F. M. Murchison, T. H. Hudspeth and H. E. Christie.

Tex., Hansford.—Hardware.—Truax Hardware Co., capital \$12,000, inceptd. by J. A. Truax, C. F. Truax and P. M. Woodring.

Tex., San Antonio.—Laundry.—Sunshine Laundry Co., capital \$10,000, inceptd. by C. W. Hall, E. J. Cutting and S. T. Hite.

Va., Marion.—Car Equipment.—Federal Car Equipment Co., capital \$75,000, inceptd. by W. H. Teas, T. J. Maxwell, both of Marion, Va.; G. H. Willson of Chattanooga, Tenn., and others.

W. Va., Huntington.—Ferry.—Guyandotte & Proctorville Ferry Co., capital \$50,000, inceptd. by Wm. Brown, M. J. Ferguson, H. C. Walburn and others.

### MISCELLANEOUS FACTORIES

Ala., Gadsden.—Overalls, etc.—North Alabama Mfg. Co. will add 50 machines; purchased this equipment; probably purchase 50 more machines.

Ala., Robertsdale.—Peanuts.—Jos. A. Baldwin will erect mill for peanuts and velvet beans.

Ala., Thomasville.—Peanuts, etc.—J. L. Bedsole may install peanut and velvet-bean mills. (See Machinery Wanted—Peanut Mills; Bean Mills.)

Ark., Fort Smith.—Candy.—J. W. and Robert Meek Candy Co., capital \$100,000, inceptd. by J. W. Meek, Robert Meek and Ben D. Kimpel.

Ark., Fort Smith.—Glass.—Radiant Glass Co., capital \$100,000, inceptd. with J. S. Parks, Prest.; Geo. D. Carney, Treas.; M. N. Carney, Secy.; erecting plant to manufacture chimneys and lantern globes. (Supersedes recent item.)

Ark., Morrilton.—Bakery and Ice Cream.—A. L. Barrier will erect fireproof building; install equipment for bread and cake making; also ice cream machinery. (Lately noted.)

Fla., Miami.—Roofing.—Miami Roofing Co., capital \$10,000, inceptd.; F. R. Mauk, Prest.; A. J. Mauk, V.-P.; W. H. Gregg, Secy.-Treas.

Fla., Wauchula.—Perfume.—C. B. Epos, Mgr. Wauchula Development Co., may establish plant to extract plant oil and bottle as toilet water. (See Machinery Wanted—Extracting Equipment.)

Ky., Franklin.—Overalls.—Franklin Overall Mfg. Co. organized; E. B. Ashford, Prest.; W. T. Stringer, V.-P.; J. H. Conn, Secy.; install 50 sewing machines costing \$2000. (Lately noted inceptd. with \$30,000 capital.)

Ky., Lexington.—Syrups, etc.—Lexington Syrup & Beverage Co., 114 Rose St., organized; W. A. Beheier, Prest.; W. E. Beheier, Secy.-Mgr.; remodel 24x60-ft. brick building, cost \$2000 or more; now occupying temporary quarters; manufacture soft drinks, syrups, etc. (Lately noted inceptd., capital \$10,000.)

Ky., Maysville-Tobacco.—R. J. Reynolds Tobacco Co., Winston-Salem, N. C., let contract Hettrick Engineering Co. of Birmingham, Ala., to erect plant; cost \$150,000.

Md., Hagerstown-Shoes.—Maryland Shoe Mfg. Co. organized to manufacture children's shoes; has 3-story brick building.

Mo., Kansas City-Toilet Preparations.—Instant Products Co., capital \$500,000, inceptd. by H. T. Rutherford, D. L. Hickox and Forster Rutherford.

Mo., Kansas City-Films.—Edward Austin will erect film factory and garage; 2 stories; brick; cost \$17,000.

Mo., Kansas City—Underwear.—Armstrong-Bell Mfg. Co., Westport, leased 5000 sq. ft. in DeGaw Bldg. at 9th St. and Broadway, and will equip to manufacture men's underwear.

N. C., Canton—Overalls, Shirts, Caps, etc.—Champion Relief Assn., J. M. Tate, Secy.-Mgr. (organization of employees Champion Fiber Co.), will install manufacturing unit for overalls, jackets, shirts, caps, etc., for 1500 men. (See Machinery Wanted—Overall and Cap Machinery and Materials.)

Okl., Mangum—Oilers.—Holthby Automatic Oiler Co., capital \$25,000, inceptd. by W. H. Holthby, Coke Witt and B. V. Stover.

Tenn., Chattanooga—Paper, etc.—Tennessee Paper Co. chartered with \$200,000 capital by John Stagmaier, Mercer Reynolds, A. M. Sheppard and others; purchased site and construct building; install machinery with daily capacity 40 tons paper and paper products; electric drive; cost of building and machinery, \$150,000.

Tenn., Knoxville—Marble.—Tennessee Marble Works increased capital from \$5000 to \$10,000.

Tenn., Memphis.—Purity Products Co., capital \$500,000, inceptd. by W. P. Mitchell, L. K. Kline, L. H. Pace and others.

Tex., Beaumont—Peanuts, etc.—Beaumont Peanut Co. will build 5-story, 120x60-ft., and 1-story, 200x100-ft. frame construction factory; install \$30,000 machinery equipment; has purchased; daily output 5000 bu. peanuts and 100 tons mixed feed. (Lately noted to build factory.)

Tex., Dallas—Brooms.—Dixie Broom Co. of Little Rock, Fort Smith and Hope, Ark., will build plant; daily capacity 200 doz. brooms; site 100x150 ft., improved with 2-story building, which will be used until further betterments can be made.

Tex., Freeport—Sulphur Products.—Freeport Chemical Co., capital \$100,000, inceptd. by Geo. F. Howard and Wm. A. Vinson of Houston, Christian B. Zabriske of New York, and Christian de Guigne, Jr., of Hillsborough, Cal.

Tex., Galveston—Rice.—Seaboard Rice Milling Co. increased capital from \$100,000 to \$150,000.

Tex., Haskell—Mattresses.—Western Cotton Oil & Gin Co., Earl Cogden, Mgr., plans installation of carding machines, cotton and cotton linter cleaners, etc., for complete mattress factory. (See Machinery Wanted—Carding Equipment, etc.)

Va., Lynchburg—Dawson Bros. Mfg. Co., capital \$100,000, inceptd.; L. J. Dawson, Pres.; R. T. Hendrix, Secy., both of Atlanta, Ga.

Va., Marion—Extracts.—Marion Extract Co., capital \$100,000, inceptd. by W. H. Teas, T. J. Maxwell, both of Marion, Va.; G. H. Willson of Chattanooga, Tenn., and others.

Va., Norfolk—B. and D. L. Margolius will erect factory building; 3 stories; brick; cost \$20,000.

Va., Waynesboro—Vinegar.—Waynesboro Evaporating Co. will install vinegar plant; erect building 40x44 ft.; 62-in. rack press with daily capacity 1000 to 1500 bu. apples; maximum tankage capacity, 300,000 gals.; purchased equipment.

W. Va., Parkersburg—Clothing.—Gibson Garment Co., capital \$25,000, inceptd. by M. Fischer, Henry Ellis, J. Lasky and others.

W. Va., Point Pleasant—Bottling.—Cocola Bottling Works, capital \$5000, inceptd. by H. D. Price and Bert H. Allinder of Point Pleasant, E. W. Grim of Parkersburg and others.

## MOTOR CARS, GARAGES, TIRES, ETC.

Fla., Hastings—Garage.—W. C. Gunn will erect garage; brick and cement; depth 150 ft.; fireproof; brick walls; cement floor.

Fla., Winter Park—Automobiles.—Winter Park Auto Co., capital \$5000, inceptd.; A. W. Mason, Pres.; Carrie W. Temple, V.-P.; Dorothy Mason, Secy.-Treas.

Ga., Savannah—Garage.—J. C. Lewis Mo-

tor Co. will occupy 2-story garage, 60x90 ft.; cost \$60,000; plans being prepared.

Ky., Paducah—Automobile Starter.—Special Ford Starter Co., 433 Jefferson St., will install lathes, drill and punch presses, etc., for manufacture of mechanical Ford starter and Ford light regulator; machinery mainly purchased; now having product manufactured by Equi Light Co., Paducah.

Ky., Cynthiana—Automobiles.—R. L. Terry Motor Car Co., organized; W. Geo. Booher, Pres.; W. S. Terry, V.-P.; R. L. Terry, Secy.-Mgr.; will erect 50x150-ft. 2-story fireproof building, cost \$10,000; date of opening proposal bids not set; install complete machine shop and garage equipment.

Mo., Kansas City—Garage.—Edward Austin will erect garage and film factory; 2 stories; brick; cost \$17,000.

Mo., Kansas City—Garage.—Standard Oil Co. will erect garage; 1 story; brick; cost \$7000.

N. C., Winston-Salem—Automobiles.—Forryth Auto Transportation Co., capital \$25,000, inceptd. by J. G. J. R. and J. E. Clayton of Rural Hall, N. C.

N. C., Winston-Salem—Automobiles.—Overland Sales Co., capital \$25,000, inceptd. by A. L. Butler, N. S. Booe and R. E. Swaim.

Okl., Drumright—Automobiles.—Drumright Central Auto Co., capital \$8000, inceptd. by G. K. Laughlin, Cushing; Francis H. Lang and Fred A. Lang.

Okl., Elk City—Garage.—Jonas Hedlund & Son will build 140x75-ft. garage, costing \$12,000 to \$15,000; partially fireproof construction; P. A. Engwall, Archt., Elk City. (Hedlund & Son lately noted to build garage.)

Tenn., Elizabethtown—Automobiles.—Holston Motor Co., capital \$10,000, inceptd. by B. A. Williams, H. T. Potts, T. E. Whittaker and others.

Tenn., Knoxville—Tires, etc.—Tennessee Tire & Supply Co., capital \$10,000, inceptd. by Chas. W. Parker, A. C. Mahan, Lee M. Ross and others.

Tenn., Memphis—Garage.—G. M. Shaw & Co. have plans for public garage; 1 story; brick and concrete; day labor; cost \$15,000.

Tex., Giddings—Automobiles.—Giddings Motor Co., capital \$5000, inceptd. by J. W. Collier, E. M. Collier and W. A. Pruess.

Tex., Houston—Tires.—Double Mileage Tire Co., capital \$5000, inceptd. by J. N. Bolton, H. H. Rankin and P. H. Spiller.

Tex., Port Arthur—Garage.—T. E. Linn let contract F. H. Drunage at \$22,000 to erect garage; 2 stories; brick; 28,000 sq. ft. floor space; showroom 69x40 ft.; install repairing equipment.

Va., Lynchburg—Automobiles.—Madison Auto Bus Co., capital \$5000, inceptd.; W. M. Stump, Pres., Madison Heights, Va.; B. Cohen, Secy.-Treas., Lynchburg.

## ROAD AND STREET WORK

Ala., Anniston—Government let contract Goodrich Construction Co., Anniston, for grading at cantonment site.

Ala., Russellville.—City will improve streets; cost \$10,000. Address The Mayor.

Ark., Jonesboro.—Comms. Craighead County Road Dist. No. 2 received plans from Hugh R. Carter, State Highway Engr., Little Rock, for road from Bettleton to Lake City, including laterals; distance, 34 mi.; macadam; estimated cost, \$260,000.

Ark., Little Rock.—Quartermaster-General's Dept., Col. I. W. Littell in general charge, Washington, D. C., will construct 10 to 15 mi. permanent streets for army cantonment.

Ark., Newport.—Jackson County Road Improvement Dist. No. 1, R. D. Wilman, Newport, Commr., will construct 10 mi. gravel road; 50,000 cu. yds. grading; 450 lin. ft. 18-in. tile; 28 lin. ft. vitrified tile, etc.; also bids to furnish material; \$65,000 available; opens bids July 6; Bowman & McDermion, Engrs.; lately noted. (See Machinery Wanted—Road Construction.)

Ark., Pine Bluff.—Jefferson County Commissioners, Road Improvement Dist. No. 14, let contract to J. A. Perdue & Co., Pine Bluff, to construct 45 mi. bituminous-macadam road; from bridge across Arkansas River to Sherrille, Tucker, Ferda, Pastorina and Plum Bayou; Big Rock Construction Co., Little Rock, to furnish rock; Finley Bros., Atlanta, Ga., to furnish asphalt; county sold \$275,000 bonds. (Lately invited bids.)

Ark., Troy.—City let contract Southern Clay Mfg. Co., Chattanooga, Tenn., at \$75,600 to construct 29,500 sq. yds. brick paving, 16,500 ft. concrete curbing and 2300 ft. sanitary sewer. (Noted in May as inviting bids.)

D. C., Washington.—Dist. Comms. will grade streets; 25,500 cu. yds.; bids until July 5. (See Machinery Wanted—Grading.)

Fla., Fort Pierce.—St. Lucie County, Fellsmere Road Dist., voted \$80,000 bonds to construct roads. Address County Commissioners.

Fla., Kissimmee.—Osceola County voted \$100,000 bonds to construct road from Kissimmee to Loughman. Address County Comms. (Lately noted.)

Fla., Panama City.—Bay County Comms., W. H. Marshall, Clerk, asks bids until July 10 for road construction as follows: Division No. 1—157,000 sq. yds. vitrified brick, asphalt, asphaltic concrete, etc.; concrete or tar via and gravel and clay, or similar pavements, with grass, pipe drains, curbing, etc.; Division 2—22,000 sq. yds. gravel paving, 92,000 sq. yds. sand and clay and 20,000 lin. ft. top-soil surfacing, with grading, pipe drains, etc.; Division 3—123 mi. clearing, grubbing, grading and shaping roads, also pipe drains, etc.; about 5300 lin. ft. bridge construction, complete with substructure; \$380,115 bonds available; E. V. Camp, Consult. and Supervising Engr., Box 436, Panama City. (See Machinery Wanted—Road and Bridge Construction.)

Fla., Zolfo Springs.—Town will construct 2 mi. of sidewalk. Address Town Clerk.

Ga., Americus.—Sumter County will vote on \$100,000 bonds to construct roads. Address County Comms.

Ga., Americus.—City contemplates paving business district with brick, concrete and asphalt block, about 31,000 yds.; also curbing, etc.; cost \$66,000; John T. Johnson, Mayor. (Lately noted voting \$20,000 bonds.)

Ga., Americus.—City will construct 2500 yds. concrete paving on Brown St.; cost \$3125; city employees. Address The Mayor.

Ga., Lagrange.—City will pave 2000 yds. street with brick; 800 ft. granite curbing; G. H. Sargent, Engr.

Ky., Louisville.—City let contract Harry J. Meyers, Covington, Ky., at \$13,197 to reconstruct Main St. with concrete.

Md., Baltimore.—Eastern Development Co., 806 Lexington Bldg., will construct concrete streets, 18 ft. wide, at Graceland Park; invites bids. (See Machinery Wanted—Paving.)

Md., Baltimore.—City will pave Woodberry Ave. from Pimlico Circle to Green Spring Ave.; Contract No. 155-A; 4800 sq. yds. concrete paving, 5000 cu. yds. grading; bids until July 3; John H. Robinette, Pres. Comms. for Opening Streets, City Hall. (See Machinery Wanted—Paving.)

Md., Cumberland.—City will pave and otherwise improve 7 streets; 9505 lin. ft. concrete curb and 18,630 sq. yds. cement concrete paving; bids until June 30; Ralph L. Rizer, City Engr., City Hall. (See Machinery Wanted—Paving.)

Miss., Hernando.—De Soto County voted \$75,000 bonds to construct link of Yazoo Delta Highway.

N. C., Rutherfordton.—Rutherford County, Colfax Township, voted \$20,000 bonds to construct roads; J. D. Hull, Clerk to Board. (Lately noted.)

N. C., Rutherfordton.—Rutherford County, High Shoals Township, voted \$15,000 bonds to construct roads; J. D. Hull, Clerk to Board. (Lately noted.)

N. C., Salisbury.—City let contract R. M. Hudson & Co. to construct 1½ mi. bitulithic paving on Fulton St.; Walter H. Woodson, Mayor. (Lately noted issuing \$75,000 paving bonds.)

N. C., South Biltmore.—Town will widen and pave Summit, Reed, Irwin and Church Sts.; bids until July 12; F. A. Walton, Mayor, 14½ Biltmore Ave. (See Machinery Wanted—Paving.)

N. C., Southport.—Brunswick County, J. J. Knox, Clerk County Comms., defeated \$12,000 bonds for road improvements. Noted in April.

Okl., Bristow.—City receives bids July 2 for paving Street Improvement Dist. No. 1; plans by Benham Engineering Co., Consult. Engrs., Oklahoma City. (See Machinery Wanted—Paving.)

Okl., Clinton.—City Comms. ordered paving of 2 additional districts; sheet asphalt; amount contemplated, \$100,000; Benham Engineering Co., Oklahoma City, Consult. Engrs.

Okl., Marlow.—City will pave business section; estimated amount, \$50,000; Benham Engineering Co., Consult. Engrs.

Okl., Mangum.—City contemplates pav-

ing to cost \$75,000; Benham Engineering Co., Engrs., Oklahoma City.

Okl., Sand Springs.—City will establish Street Improvement Dist. No. 2; asphaltic concrete; also Sanitary Sewer Dist. No. 5; amount for both, \$90,000; Benham Engineering Co., Oklahoma City, Consult. Engrs.

S. C., McCormick.—McCormick County Comms., J. J. Dorn, Chrmn., asks bids until July 18 for grading and construction of drainage structures on about 70 mi. road; first improvement under recent \$175,000 bond issue; M. E. Worrell, County Highway Engineer, McCormick. (See Machinery Wanted—Road Improvements.)

Tenn., Kingsport.—City, Wm. R. Pouder, City Mgr., voted \$150,000 bonds for streets and sanitary improvements, schools, fire truck and buildings, etc.

Tex., Houston Heights.—City votes July 28 on \$150,000 bonds to pave streets. Address The Mayor.

Tex., La Grange.—Fayette County will construct east approach to Colorado River bridge; length 500 ft.; roadway 18 ft.; Comms. Court receives bids until July 10; R. Klatt, County Clerk; lately noted. (See Machinery Wanted—Bridge Construction.)

Tex., Linden.—Cass County voted \$40,000 bonds to construct roads. Address County Comms.

Va., Charlotte.—City will construct 4000 ft. concrete pavement on Free Bridge Rd., partly in city and partly in Albemarle County; bids until July 7; C. E. Moran, City Clerk. (See Machinery Wanted—Paving.)

Va., Hampton.—Elizabeth City County Comms., H. H. Holt, Clerk, issued \$50,000 bonds to improve roads. (Lately noted.)

Va., Martinsville.—Henry County Comms. will build highway from North Carolina State line near Spray, N. C., to Danville and Martinsville Highway at Axton.

Va., Portsmouth.—Norfolk County will construct 10 mi. graded earth road; bids at office of Division Engr., State Highway Com., 409 McKevitt Bldg., Norfolk, until June 29; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Road Construction.)

W. Va., Hamlin.—Lincoln County Court, Albert F. Black, Clerk, will construct 6 mi. road from West Hamlin to Hamlin; J. M. Oliver, Engr., Huntington; bids until Aug. 16. See Bridges, Culverts, Viaducts. (See Machinery Wanted—Road and Bridge Construction.)

W. Va., Huntington.—City Comms. let contract at \$4172 to pave alley between Third and Fourth Aves., and First and Third Sts., West.

W. Va., Huntington.—City will grade, curb and pave Sixth St. from 11th to 12th St.; also construct about 2 mi. of sewers of 10, 12 and 15-in. tile; bids until July 11; O. H. Wells, Commr. of Streets, Sewers, etc.; A. B. Maupin, City Engr. (See Machinery Wanted—Paving and Sewer Construction.)

W. Va., Huntington.—Cabell County Commissioners, R. S. Douthat, County Clerk, let contract Harrison & Dean, Huntington, to pave Kanawha and James River Rds., 4.83 mi., from Milton to Putnam County line; brick road on concrete base; \$115,000 available; J. M. Oliver, County Engr., Huntington; construction superintended by A. J. Baxter, Secy. and Gen. Mgr. Harrison & Dean Co. (Bids noted in Apr.)

## SEWER CONSTRUCTION

Ala., Troy.—City let contract Southern Clay Mfg. Co., Chattanooga, Tenn., at \$75,600 to construct 22-ft. sanitary sewers, etc. (See Road and Street Work.)

Ark., Stuttgart.—City let contract Jos. McCoppin, 2400 Arch St., at \$29,700 to construct storm-water brick conduit to drain about 35 blocks; 4 ft. in diam.; require 373,000 bricks.

Ky., Owensboro.—City will issue \$250,000 bonds for sewer construction; H. Talborth, City Engr. (Lately noted as having plans prepared by City Engr. for sewers.)

Md., Baltimore.—Eastern Development Co., 806 Lexington Bldg., will construct independent sewage plant at Graceland Park; invites bids. (See Machinery Wanted—Sewage-disposal Plant.)

Miss., Clarksdale.—City will construct 6th St. storm sewer, comprising 5700 ft. vitrified sewer pipe from 15 to 27 inches in diam., 1900 ft. 10-in. connections, manholes and inlets; City Comms. receive bids until July 3; W. S. Bobo, City Engr. (See Machinery Wanted—Sewer Construction.)

Mo., Kansas City.—City let contract W. S. Axtell, 5517 Norton Ave., at \$23,794 to construct sewers in Dist. No. 435, and to W. C.



Mullins, 1230 Montgall Ave., at \$29,357, to construct sewers in Dist. No. 409.

Okl., Ada.—City (lately voted \$100,000 bonds for water and sewer plants) receives bids until July 10 for construction of Sanitary Lateral Sewer Dist. No. 5; also build sewage-disposal plant; plans and specifications by Benham Engineering Co., Conslt. Engrs., Oklahoma City, on July 10. (See Machinery Wanted—Sewer Construction.)

Okl., Hobart.—City will issue \$10,000 bonds to purchase 89 acres and improve for public park; J. J. Hunter, Mayor.

Okl., Jennings.—City is reported as contemplating voting on bonds to construct sewer system. Address The Mayor.

Okl., Okmulgee.—City Commrs. will call election on \$35,000 bonds for improvements to sanitary sewer and water systems; has reports by Benham Engineering Co., Conslt. Engr., Oklahoma City; report provides \$145,000 for large intercepting sewers, extending main sewers, installing sewage-disposal plant with Imhoff tanks and sprinkling filter, etc.; \$390,000 for water-works.

Okl., Oklahoma City.—City let contract Moreno-Burkham Construction Co., St. Louis, Mo., at \$182,344 to construct intercepting sewer system; 9579 lin. ft. 54-in., 505 ft. 66-in., 958 ft. 72-in. and 5043 ft. 84-in. sewers, with manholes; 3483 lin. ft. 15-in. and 2985 ft. 24-in. vitrified-pipe sewer, with manholes; 143 lin. ft. concrete sewer bridge; C. F. Semmelbeck, City Clerk.

Okl., Sand Springs.—City will establish Sanitary Sewer Dist. No. 5; also Street Improvement Dist. No. 2; \$90,000 for both; Benham Engineering Co., Engrs., Oklahoma City.

Okl., Tulsa.—City will construct sanitary sewer, including laterals, connections, etc., in Sewer Dist. Nos. 123, 124 and 29; bids until July 2. (See Machinery Wanted—Sewer Construction.)

Okl., Wilburton.—City let contract McEachin & McEachin, McAlester, at \$25,000 to construct sanitary sewer system and disposal plant, Macintosh-Walton Co., Engr., Oklahoma City; E. M. Cooper, Mayor. (Lately noted inviting bids.)

Tex., Graham.—City will construct sanitary sewer system and disposal plant; bids until July 2; Henry Exall Elrod, Engr., 505 Interurban Bldg., Dallas; E. S. Graham, Mayor. Noted in May. (See Machinery Wanted—Sewer Construction.)

Tex., Victoria.—City will construct storm sewer; cost \$8000. Address The Mayor.

W. Va., Huntington.—City will construct about 2 mi. of sewers of 10, 12 and 15-in. tile; also grade, curb and pave 6th St. from 11th to 12th Sts.; bids until July 11; O. H. Wells, Commr. of Streets, Sewers, etc.; A. B. Maupin, City Engr. (See Machinery Wanted—Paving and Sewer Construction.)

### SHIPBUILDING PLANTS

Md., Baltimore.—Baltimore Dry Docks & Ship Building Co., Holden A. Evans, Prest., let additional contracts connected with construction and equipment of additional shipyards; these new contracts are for bridge cranes, electric motors, transformers and rotary converters, accumulators, hydraulic pumps and boiler shop tools; other contracts lately noted. (Heretofore noted planning additional facilities to cost \$2,000,000, with immediate plans providing for 4 or 5 shipbuilding berths for vessels up to 600 ft. long and 15,000 gross tons; future plans contemplate drydock facilities to include floating drydock, etc.)

Va., Newport News.—Newport News Shipbuilding & Dry Dock Co. (New York offices in Woolworth Bldg.) let several contracts connected with additions to facilities; to McClintock-Marshall Co., Pittsburgh, for construction 500x50-ft. erecting shop requiring 1000 tons steel, also for 7000 tons fabricating steel for shipways and crane runways for these shipways; will also build foundry extension to be equipped with 6-ton electric furnace purchased; completed equipment of sand-blast room; ordered all electrical equipment. (Lately noted to build 2 additional shipways, purchase considerable machinery, etc., in connection with extensive plans, for which \$850,000 was authorized.)

### TELEPHONE SYSTEMS

N. C., Newbern.—Home Telephone & Telegraph Co. will erect exchange; 3 stories; cost \$15,000.

Okl., Tulsa.—Pioneer Telephone Co. will install additional exchange.

Tex., Beaumont.—Southwestern Telegraph & Telephone Co. will erect exchange; 3

stories and basement; steel, concrete, brick and terra cotta; all wires leading to it to be underground; so arranged that 10,000 telephones may be handled from building; cost \$150,000 to \$300,000; bids received at office Sanguinet, Staats & Gottlieb, Architects, Houston, until July 10; separate bids for plumbing, heating and wiring; plans and specifications on file at telephone office in Beaumont and at office of architects in Houston.

### TEXTILE MILLS

Ga., Marietta.—Hosiery.—B. G. Brumby, Mgr. Marietta Chair Co., will establish mill; install machinery for daily output 500 dozen pairs half hose, dyed and finished; has buildings. (See Machinery Wanted—Knitting Equipment.)

Ga., Rocky Ford.—Knit Goods.—Thomas Parker, cashier, Bank of Rocky Ford, Rocky Ford, plans organizing company with \$25,000 capital, later increasing if necessary, to build knitting mill lately noted; main building to cost probably \$7500, and machinery probably \$5000. (See Machinery Wanted—Knitting Equipment.)

N. C., Brockford.—Cotton Goods.—Brockford Mills Co. chartered with \$350,000 capital by H. J. Holbrook of Brockford, C. A. Brannan and Phillip M. Smith of New York.

N. C., Leaksville.—Cotton Products.—Carolina Cotton & Woolen Mills Co. will build additional mill; let construction contract to Jones Construction Co., Charlotte, N. C.

N. C., Lenoir.—Hosiery.—Lenoir Hosiery Mills organized; F. P. Moore, Prest.-Treas.; J. Claude Moore, V.-P.; Joe C. Moore, Secy.; rented building for temporary use; install 55 knitters with ribbers, loopers, etc.; daily output, 300 dozen pairs cotton seamless hose for men and women; purchased machinery. (Lately noted inceptd., \$9000 capital.)

N. C., Newland.—Blankets, etc.—J. W. Ragland may install machinery to manufacture woolen blankets and robes. (See Machinery Wanted—Woolen Machinery.)

S. C., Gaffney.—Knit Underwear.—John H. Strigner, 76 Nairn Pl., Newark, N. J., is not ready to state details of proposed plant. (Lately noted to establish underwear knitting mill.)

Tex., Dallas.—Cotton Bags.—Fulton Bag & Cotton Mills will build additional factory; 5 stories and basement; concrete construction; 100x50 ft.; install machinery increasing capacity to manufacture cotton cloth and bags; let construction contract to Watson Co., Dallas; Lang & Wittchell, Architects, Dallas, Tex.

Va., Field.—Cotton Cloth.—Carolina Cotton & Woolen Mills Co., Spray, N. C. (Marshall Field & Co., Chicago), let contract to E. H. Clement Co., Charlotte, N. C., to construct buildings for first unit textile-manufacturing plant; 340x340 ft. main spinning and weaving department, bleaching, power-house, warehouse, all 1 story, and 200 cottages for operatives; install 75,000 spindles with accompanying looms; plans 3 additional units, increasing to 300,000 spindles, accompanying looms, etc.; F. P. Sheldon & Son, Engrs., Providence, R. I. (General plan for mills, town development, etc., heretofore noted.)

### WATER-WORKS

Ala., Anniston.—Government let contract Little-Clecker Construction Co., Anniston, to extend water mains to cantonment site.

Ark., Marianna.—City plans to drill additional wells and extend water mains. Address The Mayor.

Md., Baltimore.—Eastern Development Co., 806 Lexington Street Bldg., will lay water mains at Graceland Park; invites bids; also bids to install storage tanks, gas engines and piping for independent water system. (See Machinery Wanted—Water-works.)

Mo., Jefferson City.—Capital City Water Co. plans to install filter plant and lay additional mains; cost \$75,000 to \$100,000; L. B. Landmann, Supt.

Okl., Ada.—City will extend water-works and sewers; new reinforced concrete flume 36-in. diam. at water supply, Byrd's Mill; new intake, water mains, 500,000 gals. capacity elevated tank, etc.; Benham Engineering Co., Engrs., Oklahoma City. (Lately voted \$100,000 bonds.)

Okl., Bristow.—City contemplates improving water-works. Address The Mayor.

Okl., Okmulgee.—City Commrs. will call election on \$35,000 bonds for improvements to water and sanitary sewer systems; has report by Benham Engineering Co., Conslt. Engr., Oklahoma City; report provides \$390,000 for installation water-purification plant, raising dam for additional storage, river protection work, 16-in. force main, mains

for city additions, remodeling pumping station, etc.; \$145,000 for sewer system.

Okl., Wilson.—City voted \$35,000 bonds for extensions to water and electric-light systems; \$25,000 for water-works and \$10,000 for electric lights; Benham Engineering Co., Oklahoma City, Engrs. (Lately noted to vote.)

Tex., Columbus.—Columbus Electric Light Co. leased municipal water system; install machinery and enlarge pumping facilities.

Va., Petersburg.—City appropriated \$25,000 to build additional filtration plant and pump made necessary by location of cantonment camp; R. D. Budd, City Engr.

Va., Radio.—Government will install 2875 ft. 4-in. cast-iron water main at Naval Radio Station; open bids June 25. (See Machinery Wanted—Water-system Extension.)

### WOODWORKING PLANTS

Ala., Birmingham.—Caskets.—American Casket Co., capital \$10,100, inceptd.; W. B. Jones, Prest.; J. E. Lortz, V.-P.; J. C. Jones, Secy.-Treas.

Ark., McGehee.—Staves.—Corley Stave Co., capital \$10,000, inceptd. by J. M. Wilkins, H. J. Wilkins, I. M. Seamans and others.

Ga., Valdosta.—Heading.—Southern Heading & Mfg. Co. organized; Chas. I. Harrell, Prest.; J. L. Reinechmidt, V.-P.; has plant of carload daily capacity. (Lately noted inceptd., capital \$15,000.)

Ga., Waycross.—Boxes, etc.—Darlington Construction Co. will establish (in connection with planing mill) plant to manufacture boxes, crates and hampers for fruits and vegetables.

Ky., Louisville.—Boxes.—C. C. Mengel Box Co. will erect frame veneer mill at 6th and E Sts.; cost \$2800.

La., Jeffers.—D. K. Jeffers Lumber Co. contemplates establishing heading mill; later may install plant to manufacture tight heading.

Md., Sparrows Point.—Boxes.—Bethlehem Steel Co., South Bethlehem, Pa., will build factory to furnish wooden boxes for its tin-plate plant; erect 260x60-ft. brick and steel building 18 ft. high to bottom of roof truss; install machinery for annual capacity 4,000,000 boxes; this is sufficient for 48 mills, twice the number now contemplated.

N. C., Asheville.—Chairs.—American Bentwood Chair Co., capital \$50,000, inceptd. by E. H. C. G., and C. L. Cranford and others.

Tex., El Paso.—Woodworking.—Southwestern Planing Mill, J. Mack Crawford, Propr., Dallas and Missouri Sts., will erect 25x120-ft. building; also 50x120-ft. 2-story mill-construction warehouse; erection by owner; install woodworking machinery, cost \$9000.

### FIRE DAMAGE

Ala., Birmingham.—Western Grain Co.'s elevator at 1716 Tenth Ave. N.; loss \$3000.

Ark., Gillett.—Davis Lumber Co.'s saw and planing mill.

Fla., Key West.—T. A. Lumley's garage and stables; Harry Gwynn's residence and garage; loss \$7500.

Fla., Tampa.—Duval M. Smith's warehouse; loss \$5000.

Fla., Tampa.—Sevilla Restaurant, owned by Mrs. Fannie Hays and occupied by Angel Martinez.

Ga., Augusta.—Grogan & O'Dowd's cotton warehouse.

Ga., Crawford.—W. D. Smith's store and dwelling; loss \$8000.

Ga., Macon.—Reuben Davis' residence on Columbia Rd. near Bailey's Mill.

La., Bowie.—Sam Lucas' stable; loss \$5000.

La., Vinton.—August Frenzel's blacksmith shop; loss \$5000.

Md., Baltimore.—Warehouse on Tyson St., between Saratoga and Mulberry Sts., occupied by Pollack's, 369-11 N. Howard St., and owned by Dufur & Co.; loss \$30,000 to \$30,000.

Md., Federalsburg.—John C. Foster's planing mill; loss \$7000.

Miss., Bay St. Louis.—Wena Lumber Co.'s plant; loss \$75,000.

Miss., Clarksdale.—W. K. Herrin's barn; loss \$18,000.

Miss., Meridian.—Sid Ferguson's residence near Meridian.

N. C., Elkin.—S. W. Garner's store building; loss \$3500 to \$4000.

N. C., Mt. Gilead.—National Lumber Co.'s plant; loss \$30,000.

N. C., North Wilkesboro.—Moore-Coffey Bldg.; loss \$3000.

N. C., Norwood.—Fred H. Wade's lumber plant.

Okl., Faxon.—Pierce & Morrison's store building; loss \$30,000.

Okl., Waurika.—J. S. Mize's country home near Waurika; loss \$15,000.

Tenn., Brownsville.—Franklin Sturdivan's dwelling; loss \$8900.

Tenn., Lexington.—R. W. Howard's dwelling; loss \$3900.

Tex., Brunner.—W. Cravey's residence.

Tex., Byers.—G. W. Byers & Co.'s building, loss \$3000; A. E. Kopley's picture show and store, loss \$3500; Herahl office; Gammond Shoe Store; Murray Dry Goods Store; total loss \$35,000.

Tex., Cleburne.—Mrs. J. P. O'Brien's boarding-house, 301 N. Robinson St.; loss \$8500.

Tex., Dallas.—The Gorge' pleasure resort in State Fair Park, operated by Lynn Welch; loss several thousand dollars.

Tex., Frost.—Commercial Hotel, owned by D. K. Robinson; B. L. Spencer's residence; loss \$4000.

Tex., Laredo.—John Armengol's warehouse.

Tex., Mart.—Dwellings of George Paul, W. T. Green, W. L. Lowry and Dr. E. L. Wedemeyer; loss \$10,000.

Tex., Port Arthur.—Home Laundry, owned by E. A. Lohman; loss \$50,000.

Tex., Sherman.—Dr. S. D. Donoho's dwelling; loss \$3500.

Tex., Scurry.—Masonic Hall and other buildings; loss \$4000.

Tex., Taylor.—Southwestern Telephone Co.'s exchange, loss \$10,000; Daily Press printing plant damaged, loss \$7000.

Tex., Temple.—Dwellings of Chas. E. Thompson, W. S. Newton and Mrs. B. F. Bryan; loss \$10,000.

Va., Ocran.—J. J. Clifton Davis' store near Ocran; loss \$3000.

Va., Tappahannock.—Henley Drug Co.'s store and postoffice; Haynes Confectionery Co.'s store; G. N. Anderson's store; total loss \$50,000.

W. Va., Parkersburg.—Parkersburg Machine Co.'s plant; loss \$5000 to \$10,000.

### DAMAGED BY STORM

Tex., Carey.—W. O. W. hall; postoffice; Baptist church (address The Pastor); public-school building; T. M. Galtner's store; loss \$35,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### APARTMENT-HOUSES

Fla., Daytona.—W. F. Gille will erect store and apartment building. (See Stores.)

Fla., St. Petersburg.—Frank Singlehurst is having plans prepared by Ferdon & Feltham, St. Petersburg, for apartment-house; 50x100 ft.; 10 apartments of 2 rooms, kitchenette, bathroom and sleeping porch.

Ga., Atlanta.—A. C. Miller is having plans prepared by R. S. Pringle, Atlanta, for apartment-house; 4 apartments of 6 rooms, conservatory, sleeping porch, etc.

Mo., Kansas City.—H. E. Black will erect 2-story 6-apartment flat; cost \$10,500.

Mo., Kansas City.—Given Building Co. will erect 3-story, 12-apartment flat, 1923-29 Brooklyn Ave.; cost \$25,900.

Mo., Kansas City.—Gus Agee will erect 3-story 6-apartment flat; cost \$15,000.

Okl., Oklahoma City.—Gill & Connors will erect 2-story flat. (See Dwellings.)

Tex., Beaumont.—C. A. Logan, Beaumont, prepared plans for apartment-house at Broadway and Magnolia Sts. to be known as Annette Apartments; hollow tile and stucco; 2 stories; 8 apartments of 4 rooms; sleeping porches; hot and cold water; gas heat; garage in connection; cost \$25,000.

Tex., El Paso.—A. E. Bardwell will erect \$10,000 apartment-house.

Va., Richmond.—W. F. Drinkard, 3001 Hanover Ave., has plans by I. T. Skinner, Richmond, for flat building at 1501 Second Ave.; 30x26x30 ft.; brick; tin roof; rift pine floor; city lighting; cost \$3000; construction by owner. (Lately noted under Dwellings.)

**ASSOCIATION AND FRATERNAL**

Ark., Stephens.—A. F. & A. M. purchased site and will erect lodge building.

Ga., Macon.—Macon Aerie, Fraternal Order of Eagles, contemplates erecting building. Address The Secretary.

Ky., Winchester.—Bids received until June 22 by Chas. B. Stewart, W. W. Clark and J. M. Benton, Com., for addition to and improving Odd Fellows' building, now occupied by Winchester Bank; plans and specifications at office J. W. Crone, Archt., Winchester.

Okl., Muskogee.—Y. M. C. A. will erect building; 3 stories; fireproof; cost \$50,000.

Va., Lynchburg.—Y. W. C. A. approved plans by Stanhope S. Johnson, Lynchburg, for building; exterior Italian style; interior early English. (Previously noted.)

**BANK AND OFFICE**

D. C., Washington.—A. C. Mather, Chicago, has plans by C. L. Harding, 729 Fifteenth St. N. W., Washington, for office and business building to cost \$150,000 to \$200,000. (See Stores.)

Fla., West Palm Beach.—Palm Beach Investment Co. will erect business building; second floor for offices. (See Stores.)

Ky., Paintsville.—Paintsville Bank & Trust Co. will build \$25,000 bank building.

Md., Baltimore.—Park Bank, Webster Bell, Prest., 110 W. Lexington St., is having plans prepared by Baldwin & Pennington, 601-07 Professional Bldg., Baltimore, for remodeling building at Liberty and Lexington Sts. for bank and offices. (Lately noted.)

Md., Baltimore.—Baltimore Dry Docks & Shipbuilding Co., Holden A. Evans, Prest., has plans by Otto G. Simonson, Maryland Casualty Tower Bldg., Baltimore, for office building, 50x150 ft., 3 stories, and 1-story storehouse, 50x200 ft.; fireproof; reinforced concrete; brick walls; slag roof; cement and wood floors; steam heat; electric lights; will soon open bids for construction. (Lately noted.)

Md., Sparks.—State Bank of Sparks, Shadrack G. Sparks, Prest., will erect building.

Okl., Miami.—Ottawa County National Bank increased capital to \$150,000 and will erect bank and office building.

Okl., Miami.—Byard T. Hainer and Albert James has plans by J. W. Roberts, Miami, for bank and office building to be known as Mineral Exchange Bldg.; 75x120 ft.; reinforced concrete; concrete roof and floor construction; electric lighting; Otis elevator; cost \$180,000; architect buying material; contract not let; construction begins July 20. Address architect. (Lately noted.)

Tex., El Paso.—Rio Grande Valley Bank & Trust Co., W. Cooley, Prest., will erect building.

Va., Mendota.—C. B. Kearfott, Bristol, Tenn., is preparing plans for bank and school building; former, 25x50 ft., to cost \$3000; latter, 50x70 ft., cost \$4500; brick veneer; asphalt slate roof; wood floors; bids opened June 25. Address S. J. Fleenor, Mendota.

Va., Newcastle.—Farmers and Merchants' Bank, G. A. Glivens, Prest., will erect building.

Va., Norfolk.—Flat Iron Locality Corp., W. B. and R. F. Baldwin, representatives, has plans by Neff & Thompson, Norfolk, for temporary structure to replace building previously noted damaged by fire; 2 stories; foundation to permit erection of 10 or 12 additional stories; fireproof; brick and concrete; terra-cotta trim; 79x203 ft.; cost \$30,000; bids reported opened June 26 in office of architects. (Lately noted.)

W. Va., Huntington.—Aleshire-Harvey Co. contemplates erecting 2-story office and store building; 40x160 ft.

**CHURCHES**

Ala., Carbon Hill.—Methodist Church, Rev. Mr. Mathison, Pastor, will erect building.

Ala., Carbon Hill.—Presbyterian Church, Rev. T. J. Ponder, pastor, will erect building.

Ala., Magnolia Springs.—Magnolia Springs Baptist Church, Rev. W. E. Lockler, pastor, will erect building to replace burned structure; Ed Summerlin, Chas. Summerlin, Ed Clements and others, Com.

D. C., Washington.—First Reformed Church has plans by Chas. M. Bolton & Son, Witherpoon Bldg., Philadelphia, for church and Sunday-school building; 80x50 ft.; Gothic style; slate roof; cement floor; electric lights; cost \$48,000; steam heat, \$2400; W. Kimmel, Supt. of Construction, Evans Bldg.,

Washington. Address Rev. Jas. D. Buhner, Pastor, 1722 Thirteenth St., Washington. (Lately noted.)

Ga., Atlanta.—Wheat Street Negro Baptist Church will rebuild structure lately noted damaged by fire. Address The Pastor.

Ky., Louisville.—Immanuel Baptist Church will erect building; brick; cost \$25,000. Address The Pastor.

La., Lake Charles.—Presbyterian Church opens bids about July 18 to erect building; plans by Favrot & Livaudais, New Orleans, call for red brick; concrete trim; imitation stone columns; auditorium 48x48 ft., with seating capacity of 300; Sunday-school room 40x70 ft., to contain 13 classrooms; cost \$30,000. (Previously noted.)

La., New Orleans.—Grace Episcopal Church, Dr. A. R. Edbrooks, Pastor, plans to erect \$50,000 structure.

Miss., Jackson.—Davis Memorial Church is having plans prepared by N. W. Overstreet, Jackson, for building; 60x80 ft.; frame; cost \$3500. Address R. L. Carter.

Mo., Kansas City.—Agnes Methodist Episcopal Church will erect 1-story brick building; cost \$6000. Address The Pastor.

Okl., Cheyenne.—Methodist Church plans to erect building. Address The Pastor.

Okl., Oklahoma City.—A. Pack has permit to erect Jewish synagogue; cost \$5800.

S. C., Darlington.—Central Baptist Church will erect brick building. Address The Pastor.

Tex., Waco.—Central Presbyterian Church is having plans prepared by Ross & Cason, Bankers Trust Co., Waco, for brick building; cost \$30,000. Address architects. (Lately noted.)

Va., Norfolk.—St. Mark's Reformed Church, Rev. C. T. Viele, Pastor, will erect building.

**CITY AND COUNTY**

D. C., Blue Plains.—Home.—District Commissioners, Oliver P. Newman and others, received no bids to erect women's ward at Home for Aged and Infirm, and will build by day labor. (Lately noted.)

Fla., Jacksonville.—Warehouses.—J. C. O'Dell, Genl. Mgr. Municipal Docks and Terminals, receives bids until July 5 for material and constructing addition to westerly end of cotton warehouse at Municipal Docks, Talleyrand Ave.; about 97x375 ft.; brick walls and floors; frame roof with composition covering; plans and specifications at office Mr. O'Dell.

Fla., West Palm Beach.—City Hall and Jail.—City voted \$16,000 bonds to erect city hall and \$8000 bonds to erect jail; W. A. Dutch, Mayor. (Lately noted in part.)

Ky., Lexington.—City Hall.—City is considering site for proposed city hall. Address Mayor Rogers.

Md., Baltimore.—Library.—Enoch Pratt Library Trustees are having plans prepared by Ellicott & Emmart, 1101-02 Union Trust Bldg., Baltimore, for branch library on South Ann St., to be known as Branch No. 19.

Tenn., Chattanooga.—Warehouse.—Comms. of Streets and Sewers receive bids through J. D. Alsop, Archt., 1102 James Bldg., Chattanooga, until June 30, for addition to warehouse at city wharf; plans and specifications at office Mr. Alsop.

Tenn., Johnson City.—Market, Auditorium, etc.—City is having plans prepared for combination courthouse, market and auditorium. (See Courthouses.)

Tenn., Kingsport.—Truckhouse.—City voted \$150,000 bonds for fire truck and building, etc. (See Schools.)

Tex., Memphis.—City Hall and Fire Station.—City voted \$15,000 bonds to erect city hall and first station. Address The Mayor.

Tex., Stamford.—City Hall and Fire Station.—City will erect city hall and fire station; about 45x130 ft.; brick; tile roof; wood floors; stoves; electric lights; cost \$22,000; construction begins in about 60 days. Address R. L. Penick, Mayor. (Lately noted.)

Va., Newport News.—Market.—Municipal Industrial Comms. deferred erection of market; J. E. Pearce, City Engr. (Lately detailed.)

**COURTHOUSES**

Tenn., Johnson City.—City is having plans prepared by C. G. Mitchell and R. H. Hunt, Johnson City, for combination city courthouse and market and auditorium; 34x190 ft.; brick, stone and terra-cotta; composition roof; wood and tile floors; steam heat; electric lights; cost \$75,000; bids opened in about 30 days. Address Archts. (Previously noted.)

**DWELLINGS**

Ala., Birmingham.—M. B. Henderson will erect 1-story frame dwelling; cost \$3500.

Ala., Birmingham.—W. C. Oliver will erect 12 frame dwellings; cost \$4800.

Ala., Carbon Hill.—Galloway Coal Co. will erect residences for employes.

Ala., Huntsville.—Abingdon Cotton Mills acquired Humes Estate, Meridianville Pike, and are reported to expend \$200,000 to develop for mill village; erect 60 dwellings, etc.

Ark., Little Rock.—S. M. Apple will erect 2-story brick-veneer residence; cost \$5500.

Fla., Elkton.—F. Meixner will erect dwelling.

Ga., Atlanta.—E. Anthony, Candler Bldg., will erect residence; 12 rooms; granite.

Ga., Atlanta.—Joseph W. Hill will erect residence; cost \$10,000.

Ga., Atlanta.—P. B. Hopkins, 328 Empire Bldg., will erect 4 bungalows; 5 and 6 rooms; frame; composition roof; pine floors. (Previously noted.)

Ga., Atlanta.—A. B. Buchl has permit to erect two 2-story residences; garage in connection; also two 2-story and one 1-story brick-veneer residences; cost \$21,000.

Ga., Augusta.—Mrs. James P. Verdery has plans by C. L. Whaley, Campbell Bldg., Augusta, for residence; frame and stucco; composition roof; steam heat; imitation tile baths; electric fixtures; cost \$7500; bids received.

Ky., Louisville.—Frank Short will erect 2 dwellings; brick and stucco; cost \$5000.

Md., Baltimore.—Meyer Bloom, 2003 Linden Ave., has plans for restaurant and dwelling. (See Miscellaneous Structures.)

Md., Baltimore.—Martin Moelter, 1821 Fairmount Ave., will erect cottage at Summit Farms, Philadelphia Rd.

Md., Baltimore.—Lennox B. Clemens, Waverly Hall, York Rd. and 31st St., purchased 26-acre tract on Linden Ave., north of Govans, and will erect number dwellings.

Mo., Kansas City.—Robt. M. Anderson will erect 2-story stone dwelling; cost \$3000.

Mo., Kansas City.—Annie M. Greenwood is reported to erect several dwellings.

Mo., Kansas City.—R. W. Coleman will erect residence in Mission Hills.

Mo., Kansas City.—C. A. Price will erect dwelling; 2 stories; stucco; cost \$4000.

Mo., Kansas City.—D. T. Hancock will erect dwelling; 1 story; stucco veneer; cost \$5000.

Mo., Kansas City.—H. R. Given will erect residence; 1½ stories; stone veneer; cost \$3000.

N. C., Charlotte.—John B. Oates is reported to erect residence in Myers Park.

N. C., Durham.—J. A. Hockaday will erect dwelling.

N. C., Greensboro.—Dr. Charles Moore is reported to erect \$6000 residence.

N. C., Greensboro.—P. M. Hunt will erect bungalow.

N. C., Winston-Salem.—J. A. Naylor has plans by Mr. Hendricks, Winston-Salem, for dwelling; brick veneer; 9 rooms.

Okl., Oklahoma City.—Gill & Conners will erect 1-story frame dwelling and 2-story flat; also repair dwelling; cost \$11,500.

Okl., Oklahoma City.—O. S. Harris will erect 1-story frame dwelling; cost \$3900.

Okl., Tulsa.—Frank M. Boyer, care of Cosden & Co., has plans by Lewis B. Wood Realty Co., Tulsa, for residence; 28x39 ft.; 2 stories; 6 rooms; frame; shingle and composition deck roof; hardwood floors; natural gas heat from furnace; cost \$6500; construction by owner. Address architect. (Lately noted.)

Tenn., Nashville.—Mrs. Lillie B. Kirtland will erect brick-veneer dwelling at 1616 Seventeenth Ave., South; cost \$5000.

Tex., Dallas.—A. Spauhl will erect 20-room 2-story brick-veneer dwelling at 4020 Rawlins St.; cost \$10,000.

Tex., Dallas.—Russell V. Rogers will expend \$5000 to repair dwelling lately noted damaged by fire.

Tex., Dallas.—W. L. Burnet will erect 2-story 10-room frame dwelling; cost \$4000.

Tex., Houston.—Houston Land Corporation will erect 2 residences; 8 and 9 rooms; also 2-story frame stucco residence; total cost, \$15,000.

Tex., San Antonio.—H. A. and L. Meyer will erect 10-room dwelling; cost \$7072.

Tex., San Antonio.—Dr. R. S. Adams will erect 7-room dwelling; cost \$3500.

Va., Graham.—T. K. Leedy will erect dwelling; construction under supervision of owner.

Va., Norfolk.—C. W. Beard will erect three 2-story dwellings; cost \$5900.

Va., Richmond.—W. S. Drinkard will expend \$4000 to repair brick dwelling.

Va., Richmond.—W. F. Drinkard will erect 2-story brick dwelling at 1501 Second Ave.; cost \$3000.

Va., Richmond.—A. E. Turman will erect brick dwelling at 429 W. Baker St.; cost \$3000.

Va., Richmond.—S. H. Powell will erect brick dwelling on Kensington Ave.; cost \$4250.

Va., Richmond.—American Construction Co. will erect 4 brick dwellings at 206 E. Duval St. and on Leigh St.; cost \$9000.

W. Va., St. Albans.—A. C. Zerkle has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, W. Va., for residence; 38x48 ft.; tile roof; hot-water heat; gas and electric lights; cost \$8000; bids opened and construction begun July 10. Address architect.

W. Va., St. Albans.—C. D. Hereford has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, W. Va., for residence; 32x48 ft.; asphalt shingle roof; hot-water heat; city electric and gas lighting; cost \$6000. Address owner.

**GOVERNMENT AND STATE**

Ark., Hot Springs.—Reservation.—Dept. of the Interior, Franklin K. Lane, Secy., Washington, D. C., selected Mann & Stern, Little Rock, Ark., to plan and design scheme of improvements for proposed enlargement of Hot Springs Federal reservation.

Fla., Jacksonville.—Lookout Galleries.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids July 5 to construct inspector's lookout galleries at United States Postoffice; drawing and specifications from Custodian of Building, Jacksonville, and Mr. Wetmore, Washington.

Fla., Key West.—Residence and Pumphouse. Commissioner of Fisheries, Dept. of Commerce, Washington, D. C., receives bids until July 26 to erect director's residence and pumphouse and provisional laboratory at Marine Biological Station; plans and specifications on application to above Commissioner.

Md., Cambridge.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids to erect postoffice; T. H. Mitchell, Salisbury, Md., low bidder at \$49,089 for limestone and \$49,593 for sandstone construction. (Lately noted.)

Miss., Gulfport.—Education Building.—Mississippi Centennial Exposition Com. has plans by N. W. Overstreet, Jackson, Miss., for education building; 68x125 ft.; 2 stories; frame and stucco; cost \$10,000. (Previously noted.)

Miss., Indianola.—Armory.—N. W. Overstreet, Jackson, Miss., is preparing plans for armory for Engineer Corps, U. S. A., Capt. J. Stein; 50x100 ft.; brick and frame; composition roof; wood trusses; drill hall, 48x50 ft.; cost \$9000; plans ready in about 10 days.

N. C., Chapel Hill.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., rejected bids to erect postoffice. (Lately noted.)

N. C., Creeds Hill.—Coast-guard Station.—Captain Commandant, U. S. Coast Guard Headquarters, Washington, D. C., opened bids to construct Coast Guard Station No. 134 and accessories; J. W. Martin, Elizabeth City, N. C., low bidder at \$17,567; plans call for ordinary frame construction; red asbestos shingle roof; cement and wood floors. (Lately noted.)

Tex., Corsicana.—Home.—State is having plans prepared by C. H. Page & Bro., Austin, for administration building at State Orphans' Home; fireproof; cost \$100,000.

Tex., Orange.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., rejected bids to erect postoffice. (Lately noted.)

Va., Rosslyn.—Laboratory.—Department of Agriculture, Washington, D. C., opened bids to construct addition and for equipment of laboratory at Arlington farm near Rosslyn; J. H. Nolan Construction Co., Munsey Bldg., Washington, low bidder at \$33,551. (Lately noted.)

**HOSPITALS, SANITARiums, ETC.**

Fla., St. Augustine.—Flagler Hospital Trustees rejected all bids to erect hospital; 3 stories; fireproof; brick and concrete;



stucco finish; Spanish style; red tile roof; two 2-story and one 1-story wings; hot-water heating plant in detached building; porches on 3 sides; solariums, enclosed porches, etc.; silent call system, electric elevators; dumb waiters; cement, tile and other fireproof flooring; cost about \$100,000, exclusive of equipment; Fred. A. Henderich, Archt., St. Augustine; will probably have plans revised and call for new bids.

Md., Baltimore.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids for surgical-dressing room at U. S. Marine Hospital; Singer-Pentz Co., 600 Equitable Bldg., Baltimore, low bidder at \$3462; completion in 60 days. (Lately noted.)

N. C., Newbern.—East Carolina Grain & Live Stock Co. Incptd. with \$250,000 capital, G. W. Burnett, Mgr.; purchased Ravenwood farm and will develop; erect hotel, supply store, etc.

N. C., Roanoke Rapids.—Roanoke Rapids Hospital, Inc., has plans by Herbert W. Simpson, 309-10 Board of Trade Bldg., Norfolk, Va., for lately-noted hospital; 47x136 ft.; 2 stories and basement; brick, ordinary construction; terra-cotta tile and gravel roof; wood floors; vacuum heat; hospital push-button elevator; cost \$40,000, including equipment; bids opened June 27. Address architect. (See Machinery Wanted—Elevator; Laundry Equipment.)

S. C., Chester.—Dr. S. W. Pryor will erect addition to Pryor Hospital; 2 stories; connected to main building by passageways; accommodate 24 beds.

Tenn., Memphis.—St. Joseph's Hospital has plans by G. M. Shaw & Co., Tennessee Trust Bldg., Memphis, for building; cost \$35,000.

Tex., Orange.—Mrs. Frances Lutzer has plans by C. H. Page & Bro., Austin, for hospital; fireproof; Barrett specification roof; cement, marble and tile floors; bids opened July 3. (Lately noted.)

Tex., Temple.—King's Daughters Hospital Association, A. F. Bentley, Prest., receives bids until July 3 to erect 4-story fireproof addition to building; separate bids for plumbing, wiring and heating; plans and specifications at office H. D. Pampel, Archt., Austin, and Mr. Bentley.

## HOTELS

Fla., Arcadia.—Arcadia House has plans by A. C. Price, Bartow, Fla., for annex; contract let June 27.

Fla., Fort Myers.—Peter Tonneller will erect annex to Kenmore Hotel; 50x60 ft.; concrete and brick; composition roof; wood floors; electric lights; cost \$6000; day labor. (Lately noted.)

Fla., West Palm Beach.—Clarence Wilcox, structural engineer for proposed \$400,000 hotel, for which Geo. L. Pfeiffer, Lemon City, prepared plans, states building will not be started this year. (Previously noted.)

La., New Orleans.—Nortropic Products Co., E. T. Cabarrus, Guatemala, Central America, is reported having plans prepared by Nolan & Torre, Hennen Bldg., New Orleans, for hotel and amusement facilities at West End; to probably be called Vestri Palace; hotel to be built over Lake Ponchartraine, directly in front of and connected with West End Park by pier 400 ft. long; Hindu-Moorish style; reinforced concrete; floor supported on arched construction, permitting normal movement of water; pier to have driveway for vehicles, with walkway on either side; statuary fountain; wide terrace around building, with gardens, promenades, etc.; entrance to building from driveway through central arcade to contain stores; main dining-room to seat 1000; elevators; arched arcades connecting central and wing pavilions; east pavilion for theater to seat 1200; west pavilion for ice-skating rink of artificial ice, maintained winter and summer; 264 bedrooms with private baths; general dimensions 427x224 ft., exclusive of bathing pavilion; convention hall over skating rink; portion of lake bed on north enclosed, paved with cement and covered with sand bottom for bathing; portion of this section roofed; garage; total cost about \$1,500,000.

S. C., Camden.—T. Edmund Krumbholz let contract to W. G. Adams, Camden, to improve Kirkwood Hotel, to include converting Country Club building into 8-room dwelling; each room provided with separate bath and porch; also erect addition to hotel proper, enlarge dining-room, etc.; total cost \$15,000; R. W. Mitcham, Archt., Camden.

Va., Martinsville.—Company is being organized with R. L. Walker, Prest.; C. B. Kessee, V.-P.; T. G. Burch, A. D. Witten,

R. S. Brown and others, Board of Directors; will erect \$50,000 hotel; plans will be competitive.

## MISCELLANEOUS

Ala., Alexander City.—Silos.—R. L. Nolen, Leon Nolen and Harry Herzfeld will erect silos 60 ft. high.

Ky., Louisville.—Auditorium.—Louisville Auditorium Co. indefinitely postponed erection of proposed auditorium; 157x198 ft.; steel skeleton; trussed roof and balcony framing; composition roof; concrete and tile floors; cost \$200,000. (Previously noted.)

Md., Baltimore.—Restaurant.—Meyer Bloom, 2003 Linden Ave., has plans by Geo. R. Callis, Jr., 55 Knickerbocker Bldg., Baltimore, for restaurant and dwelling at 1001-03 E. Lombard St.; 3 stories and basement; 27x57 ft.; brick and steel; slag roof; wood and steel floor construction; electric lights; plate-glass front; interior finish of hardwood and tile; following contractors estimating: Geo. W. Bennett, 27 Franklin Bldg.; Singer-Pentz Co., 600 Equitable Bldg.; L. Schoenlein & Son, 21 Gunther Bldg.; J. J. Walsh & Son, 1533 Maryland Ave.; J. Henry Pierson, 1221 S. Hanover St.; Cogswell-Koether Co., 406 Park Ave.; Clarence Stubbs, 548 Equitable Bldg.; J. E. Stanfield; all of Baltimore; bids opened June 30. Address owner. (Lately noted.)

Mo., Kansas City.—Clubhouse.—Kansas City Athletic Club, Lawrence C. Smith, Chmn., Building Com., is having plans prepared by Smith, Rea & Lovitt, Kansas City, for clubhouse; 12 stories; 120 ft. square; fireproof; steel, concrete and hollow tile; 190 ft. high; swimming tank 75x25 ft.; Turkish baths; gymnasium, etc.; reported cost \$1,000,000. (Previously noted.)

Okla., Oklahoma City.—Liberal Arts Building.—City and Oklahoma State Exposition Co. have plans by Layton & Smith, 701 Majestic Bldg., Oklahoma City, for liberal arts building; 1 story; 200x300 ft.; brick and reinforced concrete; cost \$100,000. (Lately noted.)

Tex., Dallas.—Swimming Pool.—Leachman Realty Co. will erect swimming pool; cost \$5000.

Tex., Waco.—Coliseum.—Texas Cotton Palace has plans by Milton W. Scott & Co., Waco, for coliseum; 194x200 ft.; reinforced concrete and tile; composition roof; cement floors; cost \$50,000; bids opened June 30. Address S. N. Mayfield, Secy. (Lately noted.)

## RAILWAY STATIONS, SHEDS, ETC.

Ala., Anniston.—Southern Railway System, B. Herman, Chief Engr. M. W. & S. Lines East, Charlotte, N. C., is reported to erect \$75,000 depot.

La., Covington.—Great Northern Ry., A. H. Hogeland, Chief Engr., St. Paul, Minn., will erect depot; cost \$9000.

Miss., Greenwood.—Yazoo & Mississippi Valley R. R., A. S. Baldwin Chief Engr., Chicago, will erect passenger station; cost \$40,000.

Va., Field.—Norfolk & Western Ry., J. E. Crawford, Ch. Engr., Roanoke, Va., and Danville & Western Ry., Fairfax Harrison, Prest., Washington, D. C., will erect union station.

W. Va., Huntington.—Chesapeake & Ohio Ry., F. I. Cabell, Ch. Engr., Richmond, Va., receives bids until July 1 to erect proposed freight house; 200 ft. long; estimated cost \$30,000 to \$35,000. (Previously noted.)

## SCHOOLS

Ala., Haleyville.—City School Board will erect 3-room brick annex to school building.

Ala., Selma.—City voted \$40,000 school bonds. Address The Mayor.

Ala., Troy.—City School Board is receiving bids to erect high school for which \$50,000 bonds were voted; Fredk. Ausfeld, Archt., Montgomery, Ala. (Previously noted.)

Ark., Arkadelphia.—Arkadelphia Baptist Academy will erect building to replace previously-noted burned structure; brick; cost \$10,000.

Ark., Pollard.—Board of Directors, Pollard School District No. 19, receives bids until June 30 for proposed school building.

Ark., Russellville.—School Board is considering erecting 3d-story addition to high school for classrooms and auditorium. (Previously noted damaged by fire at loss \$3000.)

Ark., Walnut Ridge.—School Board of District No. 56, B. F. Sisson, Clerk, receives bids until June 30 to improve school.

Ark., Wrightsville.—School Dist. No. 14 receives bids through Clyde A. Ferrell,

Archt., 300-301 Riegler Bldg., Little Rock, until June 30 to erect 2-story frame school; plans and information from Mr. Ferrell as above and W. M. Cunningham, Secy., Wrightsville.

Fla., Homestead.—Dade County Board of Public Instruction, R. E. Hall, Supt., Miami, receives bids until July 2 to erect 2 additions to public school; each 55x31 ft.; hollow-tile walls; Imperial Spanish tile roof; wood floors; August Geiger, Archt., 218-222 Townley Bldg., Miami. Address Board of Public Instruction. (Lately noted.)

Fla., Jacksonville.—Board of Public Instruction of Duval County, F. A. Hathaway, Supt., receives bids until July 21 to erect 10-room school at Johnson Addition, La Villa Park; bids not to include heating and plumbing; 2 stories; 182-ft. front; wing to rear 100 ft.; another wing 75 ft.; brick-bearing walls; reinforced concrete floors; tile roof; steam heat (not in general contract); cost \$65,000; plans and specifications from Mr. Hathaway and Mark & Sheftall, Archts., both of Jacksonville.

Fla., Jacksonville.—Board of Public Instruction of Duval County receives bids until July 14 to erect 8-room brick addition to school at Lackawanna Ave., near Jacksonville; bids not to include heating and plumbing; plans on application to F. A. Hathaway, County Supt. of Public Instruction, Jacksonville, and Rutledge Holmes, Archt., Jacksonville.

Fla., Lake Wales.—Polk County School Board, Arcadia, Fla., has plans by A. C. Price, Bartow, Fla., for school; 2 stories; 106x118 ft.; brick; ordinary construction; composition built-up roof; low-pressure steam heat; city lighting; cost \$23,000; bids opened June 26. (Previously noted.)

Ga., Columbus.—Muskogee County Board of Education will erect 2-story brick school at Nankipoo; bids opened June 23; plans and specifications at office T. W. & E. O. Smith, Murrah Bldg., Columbus; J. L. Bonds, Supt., Columbus.

Ga., Forsyth.—County Board of Education will erect school at Cabaniss; cost \$5000.

La., Lafayette.—City voted tax to erect \$75,000 school building. Address The Mayor.

Md., Annapolis.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., F. H. Harris, Chief, receives bids until July 9 to erect wing and connecting building forming extension to Isherwood Hall at Naval Academy; plans and specifications on application to Bureau.

Miss., Gulfport.—Gulfcoast Military Academy has plans by N. W. Overstreet, Jackson, Miss., for mess hall and kitchen.

Miss., Hopewell.—Hopewell Consolidated School Dist. is having plans prepared by N. W. Overstreet, Jackson, Miss., for school; 40x60 ft.; frame; shingle roof; cost \$4000. Address E. I. Watts.

Miss., Olive Branch.—Trustees rejected all bids to erect agricultural high school; W. D. Gooch, Princ. (Previously noted.)

Miss., Sardis.—Union Consolidated School Dist. will erect school and principal's residence; frame; cost \$5000; Raymond B. Spencer, Archt., Jackson, Miss.

Miss., Senatobia.—Woolfolk Consolidated School Dist. will issue \$5000 bonds to purchase site, erect and equip school; J. A. Wooten, Clerk of Supervisors of Tate County.

Miss., Tchula.—Tchula Separate School Dist. will issue \$10,000 bonds to erect, repair and equip schools. Address District School Trustees.

Mo., Paulding.—Directors School District No. 69, T. H. Queen, Clerk, receive bids until July 2 to erect 2-room brick school; plans and specifications at office Mr. Queen.

N. C., Charlotte.—John B. Ross, Chmn., Building Com., receives competitive designs from architects July 18 in Council Chamber, City Hall, for high school and grammar school buildings; printed instructions furnished architects on application. (Lately noted.)

N. C., Greensboro.—Fentress Township voted \$40,000 bonds to erect brick high school and improve other schools. Address Guilford County Commrs.

N. C., Mebane.—School Board will erect annex to high school.

N. C., Statesville.—City defeated \$25,000 bonds to erect school and repair present structures; R. M. Gray, Supt. City Board of Education. (Previously noted.)

Okla., Coalgate.—School Board, S. A. Maxwell, Secy., Colgate, receives bids until July 5 to erect brick high school; bids to include general construction, painting, wiring,

plumbing and heating; plans and specifications at office Ye Plantry, Inc., Archts., Dallas, Tex., and Mr. Maxwell as above. (Lately noted to open bids June 18.)

Okla., Porum.—Directors of School Dist. No. 88, Muskogee County, receive bids until July 10 to erect school building; separate bids on general work, heating and plumbing and electric work; 1 story; 109x115 ft.; brick and stone; tar and gravel roof; 1-pipe gravity steam heat; cost \$18,000; plans and specifications at office H. O. Valeur & Co., Archts. and Consult. Engrs., 705 Phoenix Bldg., Muskogee, Okla., and O. W. Kirk, Clerk, Porum. (Lately noted to open bids June 4.)

Okla., Elk City.—Spring Creek Dist. voted bonds to improve school. Address District School Trustees.

Okla., Frederick.—Sanford School District is reported to have voted school bonds. Address District School Trustees.

Okla., Frederick.—School Board, District No. 2, is having plans prepared by G. S. Glenn for school building; brick; metal ceiling; cost \$16,000. Address C. H. Ballard, Frederick.

Okla., Miami.—Carden, Picher and Century School Districts plan to consolidate and erect building. Address District School Trustees.

Okla., Mountain View.—City voted bonds to erect school. Address The Mayor.

S. C., Lodge.—Trustees, P. F. Cone, Clerk, have plans by Benson & Barbot, Charleston, S. C., for school and are receiving bids for erection; 4 rooms and auditorium; ordinary construction; brick; artificial stone trim; metal roof; cost about \$7000.

S. C., McClellanville.—Trustees are having plans prepared by Benson & Barbot, Charleston, S. C., for school; 6 rooms and auditorium; brick; ordinary construction; metal roof; limestone trim; Georgian period style; plans ready for contractors about July; cost about \$15,000. (Previously noted.)

S. C., Saluda.—Trustees rejected bid to erect school and remodel auditorium, and will call for new bids, date not set; plans by Wilson & Sompayrac, Columbia, call for brick building; tin roof; wood and concrete floors; electric wiring; cost \$12,000. (Lately noted.)

Tenn., Bartlett.—School Board has plans by McGee & Lester, Memphis, for Nicholas Blackwell school; brick, stone and concrete.

Tenn., Cumberland.—Lincoln Memorial University of Cumberland Gap, care of H. C. Hubbell, 716 First National Bank Bldg., Cincinnati, has plans by A. L. Feckheimer, 153 Union Trust Bldg., Cincinnati, for building; 2 or 3 stories; cost about \$60,000.

Tenn., Johnson City.—City is having plans prepared by C. G. Mitchell, Johnson City, for school; 62x57 ft.; 3 stories; semi-fireproof; Barrett composition roof; wood floors; steam heat; electric lights; cost \$25,000; bids opened in about 10 days. Address Archt. (Previously noted.)

Tenn., Kingsport.—City voted \$150,000 bonds for school, street and sanitary improvements, firetruck and building, etc.; W. M. Pouder, City Mgr. (Lately noted.)

Tex., Austin.—State, James E. Ferguson, Governor, rejected bids to erect 5 fireproof and 2 frame buildings at State School for Blind; Atlee B. Ayres, Archt., 636 Bedell Bldg., San Antonio. (Lately noted.)

Tex., China Spring.—China Spring School District voted \$12,000 bonds to erect school building. Address District School Trustees.

Tex., Dallas.—Common School District No. 69 (Highland Park Dist.) votes July 14 on \$20,000 bonds to erect school building. Address District School Trustees.

Tex., Denton.—College of Industrial Arts, F. M. Bralley, Prest., adopted plans by E. O. Taylor and C. W. Bulger, both of Dallas, for Lowry Hall and another dormitory; cost \$140,000 each; also having plans prepared for addition to laundry, enlargement of power plant, erection of dairy and stock barn, demonstration cottage; Geo. E. Kessler, Landscape Archt., St. Louis. (Lately noted.)

Tex., Gatesville.—State Juvenile Training School Trustees will select architect July 6 for school; 2 stories and basement; 70x90 ft.; brick and concrete; composition roof; concrete floors; steam heat from present plant; electric lights from power plant; concrete sidewalk; cost \$38,000; C. E. King, Supt. (Lately noted.)

Tex., Gainesville.—Texas State Girls' Training School, Patrick Henry, Chmn., Board of Control, Gainesville, receives bids until July 3 for erection and completion of interior work of two 2-story and basement, fireproof dormitories and interior work in 2 other dormitories; plans and specifications at

office Fonzie F. Robertson, Archt., Southwestern Life Bldg., Dallas. (Lately noted.)

Tex., Seymour.—City voted \$24,000 bonds to erect ward school and repair high school. Address The Mayor. (Lately noted.)

Va., Bellevue.—Bellevue District School Board, J. K. Calkins, Clerk, receives bids until July 3 through Heard, Cardwell & Craighill, Archts., 1107-08 People's National Bank Bldg., Lynchburg, Va., for frame school building near Goode; plans and specifications at office Archts.

Va., Fishersville.—South River District School Board, R. F. Thompson, Clerk, receives bids until June 30 to erect frame addition to school building; plans and specifications at office H. T. Ritchie, Fishersville.

Va., Mendota.—C. B. Kearfott, Bristol, Tenn., is preparing plans for school building. (See Bank and Office.)

W. Va., Clarksburg.—Board of Education of Clarksburg School Dist. has plans by Wm. B. Ittner, Board of Education Bldg., St. Louis, for Washington Irving High School; composite construction; concrete and wood joist; composition roof; cost \$20,000; bids opened July 3; separate bids for heating and ventilating. Address J. N. Hess, Secy. of Board, Clarksburg. (Lately noted.)

W. Va., Grantsville.—Board of Education has plans by S. W. Ford, Union Bank Bldg., Clarksburg, W. Va., for high and graded school; cost about \$80,000.

### STORES

D. C., Washington.—A. C. Mather, Chicago, has plans by C. L. Harding, 729 Fifteenth St. N. W., for office and business building at 918 G St. N. W.; 67.8x113.8 ft.; reinforced concrete, brick, etc.; slag roof; concrete and cement floors; 2-pipe steam heat (in general contract); electric passenger and 2 electric freight elevators; cost \$150,000 to \$200,000; bids opened July 3; date beginning construction not set. (Lately noted.)

Fla., Daytona.—W. F. Gille will erect two-story store and apartment building; red brick; 2 stories; each 15x70 ft., on first floor; two 5-room apartments above; cement floors; cost \$7000; construction under supervision of owner; will also convert structure into apartment-house.

Fla., Jacksonville.—D. S. Fletcher will erect frame addition to building; cost \$4000.

Fla., Jacksonville.—G. E. Boyd Co. will erect 2-story brick building; cost \$13,000.

Fla., West Palm Beach.—Palm Beach Investment Co. will erect business building; 2 stories; reinforced concrete and stucco; old ivory finish; main office 52x42 ft.; lobby 27 ft. sq. and ladies restroom 10x12 ft., on first floor to have marble wainscot, frosted-glass partitions; tile floor, plate-glass windows, 7 ft. wide; second floor for offices; foundation to permit erection of 4 additional stories later; contract let July 1.

Ga., Columbus.—Joe L. Brown will expend \$10,000 to remodel drug store.

Miss., Friars Point.—D. J. Anderson is preparing plans and will supervise construction of store building; 100x100 ft.; 1 story; brick; concrete foundation and floors; plate-glass front; tar and gravel roof; skylights; cost \$15,000.

N. C., New Bern.—East Carolina Grain & Live Stock Co. will erect store. (See Hotels.)

Okla., Bristow.—E. E. Hutchinson will erect brick business building.

Okla., Enid.—Alton Mercantile Co. will erect 3-story business building; 60x110 ft.; cost \$30,000.

S. C., McCormick.—J. T. Foshee and W. B. Quarles will erect proposed store building; 2 stories; brick.

Tenn., Memphis.—E. H. Clarke & Bro. will erect front to store building; cost \$3000; G. M. Shaw & Co., Archts., Tennessee Trust Bldg., Memphis.

Tex., Beaumont.—Bernard Deuster receives bids until June 30 to erect building for Deuster Furniture Co.; 4 stories; 87x115 ft.; also 2-story annex, 20x86 ft.; semi-fireproof; brick and stone; plate-glass windows with marble base; automatic fire protection; vacuum cleaners; ice-water circulating plant; mail chutes; elevators; electrolights; steam heat; cost \$50,000; also receives bids until June 30 for remodeling 2-story building occupied by Rupert Cox; plans and specifications at office F. W. Steinman, Archt., Beaumont. (Lately noted.)

Tex., Dallas.—R. E. Bramblett will erect business building; 2 stories; brick; 55x140 ft.; cost \$22,000.

Tex., Houston.—J. W. Link will erect

number of business buildings on Lamar Ave.

Tex., Waxahachie.—Will Moore Hardware Co. will repair structure lately noted damaged by fire; 72x92 ft.; 2 stories; brick and steel; metal roof; cement and wood floors; electric lights; date opening bids not set.

Va., Portsmouth.—Harry L. Alexander will erect 6-story brick store and storage building at Chestnut and High Sts. cost \$30,000.

Va., Richmond.—J. J. Lichtenstein will expend \$8000 to repair brick store at 1415 E. Main St.

Va., Richmond.—Edward Cowardin & Bros. will erect brick store; cost \$8000.

W. Va., Charleston.—Joe Sahley, P. O. Box 1160, has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, for business block; 24x80 ft.; 2 stories; asphalt and gravel roof; city electric and gas lights; bids opened July 1; cost \$5000. Address architect.

W. Va., Huntington.—Aleshire-Harvey Co. contemplates erecting office and store building. (See Apartment-houses.)

### THEATERS

D. C., Washington.—Rialto Theater, 9th and G Sts. N. W., has plans by Blanke & Zink, 835-37 Equitable Bldg., Baltimore, for theater; 1 story; 100x141 and 70x100 ft.; seating capacity about 2200; fireproof; slag or composition roof; wood and cement floors; steam heat; electric lights; cement sidewalks; bids opened July 6; contractors estimating are: Consolidated Engineering Co., 243-59 Calvert Bldg.; Singer-Pentz Co., 609 Equitable Bldg.; C. E. Stubbs, 548 Equitable Bldg.; Morrow Bros., 1201 Fidelity Bldg.; all of Baltimore. Address Archts.

La., New Orleans.—Nortropic Products Co., Guatemala, is reported to erect hotel, theater, etc. (See Hotels.)

Md., Annapolis Junction.—Harry W. Webb, 1318 Fidelity Bldg., and associates plan to erect theater; fireproof; seating capacity 2000.

Md., Baltimore.—Northeastern Amusement Co. has plans by Theodore Wells Pietsch, 1219 American Bldg., Baltimore, for addition to motion-picture theater at Gay and Hoffman Sts.; 43x52 ft.; contractors estimating are: Consolidated Engineering Co., 243-59 Calvert Bldg.; Gladfelter & Chambers, 36th and Roland Ave.; Cowan Building Co., 106 W. Madison St.; Herbert & Prodoehl, 431 Munsey Bldg.; all of Baltimore.

### WAREHOUSES

Fla., Miami.—A. Schmidtman will erect warehouse; fireproof.

Ga., Moultrie.—South Georgia Products Co., Incptd. by R. S. Roddenberry, F. R. Pidcock, C. W. Pidcock and others; will erect warehouse.

Md., Baltimore.—Wilfred F. Terry, 3900 Kate Ave., will erect warehouse at 1134-36 Cathedral St.

Md., Baltimore.—Baltimore Dry Docks & Ship Building Co., Holden A. Evans, Prest., is having plans prepared by Otto G. Simonson, Maryland Casualty Tower Bldg., Baltimore, for storehouse 50x200 ft.; 1 story; fireproof. (See Bank and Office.)

Md., Baltimore.—Mount Vernon-Woodberry Mills, Inc., has plans by Joseph Evans Sperry, 409 Calvert St., Baltimore, for warehouse, wastehouse and bridge at Woodberry; 2 stories; concrete and steel; following contractors are estimating: Cogswell-Koether Co., 406 Park Ave.; Morrow Bros., 1201 Fidelity Bldg.; Cowan Building Co., 106 W. Madison St.; Milton C. Davis, 902 W. 36th St.; all of Baltimore.

Md., Baltimore.—Baltimore Dry Docks and Ship Building Co., Holden A. Evans, Prest., foot of Cross St., is having plans prepared by Otto G. Simonson, Maryland Casualty Tower Bldg., Baltimore, for storehouses and office buildings in connection with establishment of additional shipyards.

Tenn., Johnson City.—Washington County Tobacco Warehouse Co. will erect 2 loose-leaf tobacco salesroom or warehouse and prize-houses; 200x90 ft. and 200x80 ft.; frame; iron or composition roof; double hardwood floors; electric lights from local plant; cost \$12,000. Address Evan S. Rees. (Lately noted.)

Tenn., Memphis.—John Wade & Sons have plans by G. M. Shaw & Co., Tennessee Trust Bldg., Memphis, for warehouse; 2 stories; brick and mill construction; 132x200 ft.; cost about \$50,000.

Tex., El Paso.—Southwestern Planing Mill, J. Mack Crawford, Prest., Dallas and Mis-

souri Sts., will erect warehouse; 50x120 ft.; 2 stories; mill construction; construction by owner.

Tex., San Antonio.—Ike Shklar will erect warehouse; cost \$6000.

Tex., San Antonio.—Webster Company will erect warehouse; 408x205 ft.; 2 division fire walls, all of hollow tile; concrete floors;

rubberoid roof; bids opened June 20; construction begins July 15.

Va., Portsmouth.—Harry L. Alexander will erect store and storage building. (See Stores.)

Va., Richmond.—W. P. Wood will expend \$10,000 to repair 2 brick warehouses at 11-13 S. Fourteenth St.

## BUILDING CONTRACTS AWARDED

### APARTMENT-HOUSES

Fla., St. Petersburg.—Paul R. Sherer let contract to H. F. Lancaster, 302 Eleventh Ave. South, St. Petersburg, to erect apartment-house; 40x44 ft.; concrete blocks; Reynolds asphalt composition roof; wood floors; cost \$4000. (Lately noted to erect dwelling.)

Mo., St. Louis.—University Investment Co. let contract to Francis Wyland Contracting Co., St. Louis, for concrete foundations for 2 tenements, 5406 and 5416 Delmar St.; cost \$6000.

### ASSOCIATION AND FRATERNAL

Ky., Mayfield.—B. P. O. E. let contract to John R. Hays, Mayfield, for residence; 57x52.5 ft.; brick and stone; shingle roof; wood floors; cost \$16,000; Ellis K. Wickersham, Archt., Mayfield. (Lately noted.)

N. C., Hamlet.—Union Building Co. let contract to erect lodge, store and hotel building. (See Hotels.)

N. C., Oxford.—North Carolina Masonic Orphanage will erect residence for superintendent; 2 stories; brick; cost \$10,000.

Okla., Tulsa.—Y. W. C. A. let contract to Swenson Construction Co., Tulsa, to erect building; 50x140 ft.; reinforced concrete and brick; tar and gravel roof; metal domes and concrete floor construction; vapor vacuum steam heat; cost \$75,000; C. K. Bird-sall, Archt., 1002 Commerce Bldg., Kansas City. (Previously noted.)

Tex., El Paso.—Y. W. C. A. let contract to McGregor & Henger to erect building; 3 stories and basement; reinforced concrete; 75x90 ft.; cost \$70,000; Lang & Wittchell, Architects, El Paso and Dallas. (Lately noted.)

Tex., Terrell.—B. P. O. E. let contract to J. B. Morris & Son, Dallas, to erect club building; 40x70 ft.; interlocking tile or brick; gravel roof; concrete floors; cost \$5000. (Previously noted.)

### BANK AND OFFICE

Ala., Ensley.—Bank of Ensley, Erskine Ramsay, Prest., has plans by and let contract to Geo. W. Muller Bank Fixture Co., Atlanta, to erect bank building; front and two sides white Georgia marble; rear white tapestry brick; reinforced concrete and steel construction; fireproof; steel windows; interior white marble with bronze fixtures; banking-room floor white tile; work floor cork; steel burglar-proof vault with 3 compartments on banking-room floor; vault in basement half size of site; basement also to contain heating system, storage vaults, cooling system, etc.; Harry B. Wheelock, local architect in charge, Steiner Bldg., Birmingham, wires Manufacturers Record: "Building will be 40x80 ft.; 1 story; cost \$100,000."

Mo., St. Louis.—Vaudeville Theater Co., 705 Olive St., let contract to alter theater and office building. (See Theaters.)

N. C., Greensboro.—Moorehead & Moorehead let contract to A. F. Brooker, Greensboro, to erect office building; 2 stories; brick; tin roof; pine floors; electric lights; cost \$3500; plans by owners. (Lately noted.)

S. C., Charleston.—Citizens Bank let contract to Charles Kannapaux, Charleston, to remodel bank building; Indiana limestone front; marble tile floors, wainscot and columns; hot-water heat; electric lights; vault and bank fixtures let under separate contract; Benson & Barbot, Archts., Charleston.

Tex., Dallas.—Southland Life Insurance Co. let contract to Fred A. Jones Construction Co., 429 Interurban Bldg., Dallas, to erect office building at Commerce and Brouder Sts.; 8 stories and roof garden (addition to 2-story building); Turner flat slab concrete frame; tile (promenade) and composition roof; cement, tile and wood floors; steam heat; electric high-speed elevators; oak trim, but alternate proposals for metal trim will be asked; gyp partitions; face brick with terra-cotta trim; marble toilets and corridor wainscot; ornamental iron stairs, elevator fronts and doors; cost \$250,000 to \$300,000; Lang & Wittchell, Archts., Southwestern Life Bldg., Dallas; construction begins July 1. Address contractor. (Lately noted.)

Va., Richmond.—Wm. P. Wood let contract to remodel building for stores and offices. (See Stores.)

W. Va., Princeton.—Virginia Bank of Commerce let contract to Ball & Caldwell, Princeton, W. Va., to erect bank and office building; 30x60 ft.; brick and stone; asphalt roof; concrete, tile and wood floors; hot-water heat; electric lights; cost \$12,300; A. F. Wysong, Archt., Princeton, W. Va. Address contractors. (Lately noted.)

### CHURCHES

Ark., Hope.—First Methodist Church let contract to N. P. O'Neal, Hope, to erect building; ordinary construction; joist floors; cost \$35,000; Witt, Selbert & Co., Archts., Texarkana, Ark. (Lately noted.)

Ga., Dublin.—Methodist Episcopal Church let contract to T. C. Fountain, Dublin, to erect parsonage; 46x36 ft.; wood; shingle roof; wood floors; city electric lights; cost \$3778.87; P. E. Dennis, Archt., Macon. (Lately noted.)

N. C., Lenoir.—Methodist Episcopal Church South let contract to Bumgarner & Lawrence, Hickory, N. C., to erect building; brick; slate roof; wood floors; cost \$20,000; R. H. Hunt and Chas. W. Carlton, Archts., Chattanooga, Tenn. (Previously noted.)

### CITY AND COUNTY

Fla., Clearwater.—Jail.—Pinellas County let contract to erect jail and courthouse. (See Courthouses.)

Miss., Wiggins.—Jail.—Stone County Commissioners let contract to erect courthouse and jail. (See Courthouses.)

Tex., Beaumont.—City Hall.—City let contract at \$9336 to remodel city hall; F. W. Steilman, Archt., Beaumont. (Lately noted.)

### COURTHOUSES

Fla., Clearwater.—Pinellas County Commissioners let contract at \$100,025 to Bates-Hudnall-Jetton Co., Tampa, to erect courthouse; granite base; faced with (120,000) buff-colored brick; steam heat; plate glass windows; disappearing sash; also let contract at \$19,800 to G. A. Miller, also of Tampa, to erect jail, and to Pauly Jail Building Co., St. Louis, for steel jail equipment; Francis J. Kennard, Archt., American National Bank Bldg., Tampa. (Lately noted.)

Miss., Wiggins.—Stone County Commrs. let contract to Standard Construction Co., Meridian, Miss., to erect courthouse and jail; 55x110 ft. and 30x55 ft.; brick; tiling and flat top roof; wood floors; cost \$25,000; Xavier A. Kramer, Archt., Magnolia, Miss. (Lately noted.)

### DWELLINGS

Ala., Athens.—R. H. Walker let contract to Johnson-Chambers Co., Athens, to erect residence.

Fla., Hastings.—Mr. Atkinson let contract to C. B. Shugart, St. Augustine, Fla., to erect 2 bungalows; 5 and 7 rooms.

Fla., St. Augustine.—Mason Evans, Youngstown, Ohio, let contract to erect residence; about 40x60 ft.; frame and stucco; flexible shingle roof; frame floor construction; hot-air heat; electric and gas lights; cost \$7000; F. A. Henderich, Archt., St. Augustine. (Lately noted.)

Fla., St. Petersburg.—Walter H. Holmes, Waterbury, Conn., let contract to Sterling Construction Co., St. Petersburg, to erect residence; stucco; tile roof; tile floors; 6 rooms and 3 baths; cost \$10,000; H. H. Dupont, Archt., St. Petersburg.

Md., Baltimore.—Pierre C. Dugan & Nephew, Agents, 16 E. Lexington St., Baltimore, let contract to Alexander Schratke to erect cottage on Oakdale Ave., Summit Farms; 6 rooms, bath, reception hall, front and back porches.

Miss., Jackson.—Wm. H. Pullen let contract at \$7111 to J. D. Varley, Jackson, to erect residence; Raymond B. Spencer, Archt., Jackson. (Previously noted.)

Mo., St. Louis.—Theo. Volz let contract to Hueger, St. Louis, to erect 1-story brick dwelling.



Okla., Tulsa.—R. E. Downing let following contracts to erect residence: General contract, M. L. Weir Contracting Co., \$15,141.30; plumbing, heating and vacuum cleaner, F. S. Kelly, \$3760; metal weatherstrips, G. W. Strawn, \$200; electrical wiring, F. S. Davidson, \$624.65; painting and finishing, well, cistern and garage contracts not let, probable cost of these \$900, \$300, \$250 and \$3500, respectively; decorating and landscape work considered later; plans by John V. Starr, 205 Seaman Bldg., Tulsa, call for 2 stories, basement and attic; main building, exclusive of verandas, porte-cochere, etc., 48x40 ft.; brick with hollow tile backing; asphalt slate roof; wood joists; hot-water heat; electric fixtures; cement sidewalks. (Lately noted.)

Tex., Austin.—T. H. McGregor let contract to Brydson Bros., Austin, to erect 2-story frame and stucco dwelling; shingle roof; hardwood and pine floors; cost \$7400.

Tex., Beaumont.—John I. Pittman let contract to E. P. Vachelet to erect residence; stucco and tile; vitrified tile roof; cost \$7000; F. W. Steinman, Archt., Beaumont.

Tex., San Antonio.—J. L. Burd, 511 E. Laurel St., let contract to John W. Hagy, San Antonio, to erect residence; 7 rooms; frame and brick veneer; tin roof; concrete floor; fireplaces and flues; electric lights; concrete and cement sidewalks; cost \$3000. (Lately noted.)

Va., Field.—Carolina Cotton & Woolen Mills Co., Spray, N. C., let contract to erect 200 cottages for operatives. (See Warehouses.)

W. Va., Logan.—Procter Coal Co. let contract to J. W. Fisher to erect 50 dwellings at Amherstdale; cost \$900 each.

W. Va., Moundsville.—Clarence Burch let contract to erect residence and business building. (See Stores.)

W. Va., Robinette.—Madne Coal Co. let contract to J. W. Fisher to erect 25 dwellings; cost \$900 each.

## GOVERNMENT AND STATE

Ala., Anniston.—Army Camp.—Government let contract to John O. Chisholm & Co., New Orleans, La., to construct army camp, including officers' quarters, soldiers' barracks, library, chapel, gymnasium, natatorium, hospital, etc.; let contract to Little-Clecker Construction Co., Anniston, for extending water mains and part of excavation, and to Goodrich Construction Co., Anniston, for grading; work consists in part of clearing tract, about 2000x1000 yds., of trees and underbrush, in addition to 10 acres required for clearing and grading for buildings, etc.

Ark., Little Rock.—Cantonment.—Quartermaster-General's Dept., Washington, D. C., will develop military camp, erect cantonment for 65,000 soldiers; will involve construction of about 40 mi. of roads, 4 mi. railroad, 7 mi. sewerage, etc.; estimated cost \$3,500,000; Jas. Stewart & Co., Contrs., 30 Church St., New York, and Boatmen's Bank Bldg., St. Louis; Col. I. W. Littell in general charge. (Lately noted.)

Md., Annapolis Junction.—Cantonment.—Quartermaster-General Dept. let contract to Smith, Hauser & M. F. McIsaacs, New York, to construct cantonment; Col. I. W. Littell in general charge, Washington, D. C. (Lately noted.)

Tex., San Antonio.—Cantonment.—Quartermaster-General's Dept., Washington, D. C., has plans by Geo. E. Kessler, St. Louis, and let contract to Stone & Webster, 120 Broadway, New York, to construct national training camp to accommodate 35,000 men and 12,000 animals; will require 4000 carloads of material, including 36,000,000 ft. of lumber; complete system of sewerage, water-works, lighting and refrigeration will be installed; cost \$5,000,000.

Va., Petersburg.—Cantonment.—Quartermaster General's Dept., Washington, D. C., selected site and let contract to Rhinehart & Dennis Co., Inc., Charlottesville, Va., to construct cantonment; also let contract to W. H. Harrison Co. & Thomas, Petersburg, for plumbing to cost \$500,000; Col. I. W. Littell, Washington, in general charge.

Va., St. Juliens Creek.—Shellhouses, etc.—Bureau of Yards and Docks, Navy Dept., F. R. Harris, Chief, Washington, D. C., let contract at \$110,850 to M. J. Roche Construction Co., Cincinnati, to erect 2 shellhouses, 1 torpedo storehouse, 1 magazine building; steel frame with concrete foundations; terra-cotta tile walls; asbestos shingle roofs. (Lately noted.)

## HOSPITALS, SANITARIUMS, ETC.

S. C., Charleston.—Government let contract to Charleston (S. C.) Engineering &

Construction Co. to erect emergency hospital buildings at naval station.

Va., Richmond.—Memorial Hospital, care of Virginia Medical College, 11th and E. Broad St., let contract to A. M. Walkup & Co., 746 17th St., Richmond, to erect addition to hospital for contagious diseases; 4 stories; cost \$50,000, exclusive of equipment. (Lately noted.)

## HOTELS

Fla., St. Petersburg.—Mrs. Minnie Moon let contract to Bryan & Snyder, St. Petersburg, to remodel and erect 4-story addition to Poinsetta Hotel adjoining 4-story annex now under construction; H. H. Dupont, Archt., St. Petersburg.

Fla., St. Petersburg.—Mrs. Ella C. Reed, owner of Wigwam Hotel, let contract to Sharp & Hewitt to remodel and erect 30-room addition to building; addition 92x70 ft.; cost \$16,000; Ferdon & Feltham, Archts., St. Petersburg. (Lately noted.)

N. C., Hamlet.—Union Building Co. let contract to J. E. Beaman, Raleigh, N. C., to erect store, hotel and lodge building; 100x46 ft.; brick exterior; frame interior; composition roof; frame floors; steam heat; electric lights; cement sidewalks; cost \$18,000; B. H. Stephens & Co., Archts., Wilmington, N. C. Address contractor. (Previously noted.)

Tex., San Antonio.—J. M. Kincaid let contract to Wright & Sanders to erect hotel on S. Flores St.; Chalky Bros., plumbing; Martin Wright, electrical equipment; all of San Antonio; 2 stories; 75x100 ft.; 28 rooms, each with private bath; reinforced concrete faced with brick; fireproof; cost \$35,000; Alfred Gilles & Co., Archts., San Antonio.

## MISCELLANEOUS

Okla., Lawton.—Exhibit Building.—Simmons & Co. have contract to erect exhibit building at fair grounds.

## SCHOOLS

Ark., Fort Smith.—School Board let contract to J. Engles to erect 2 school buildings in Mill Creek District.

Fla., Davie.—Davie School District Trustees let contract to erect proposed building; cost \$12,000.

Ga., Atlanta.—Fulton County Board of Education let contract to J. N. Landers, Atlanta, to erect several rooms and remodel Evan P. Howell school on Howell Mill Rd.; cost several thousand dollars.

Ga., Doerun.—City let contract to Smith & Watson, Albany, Ga., to erect lately-noted school; 6 rooms; 2 stories and auditorium; brick; metal roof; ordinary wood floors; stove or heater; city electric lights; cost \$15,000; A. Huber, Archt., Moultrie. (See Machinery Wanted—Seating; Desks.)

Ky., Sedalia.—Sedalia Special School Dist. let contract to X. B. Wickersham, Mayfield, Ky., to erect lately-noted school; 66.6x63 ft.; brick and concrete; tin roof; wood floors; cost \$9500; Ellis X. Wickersham, Archt., Mayfield. Address Dr. J. F. Kirksey, Sedalia. (See Machinery Wanted—Heating.)

La., Pelican.—De Soto Parish School Board, Mansfield, La., let contract to Hudson Construction Co., Alexandria, La., to erect school; 8 rooms, office, library, science department and auditorium; brick; tar and gravel; Barrett specification roof; wood floors; steam heat; electric lights; cost \$40,000; Edward P. Field, Archt., Shreveport, La. (Previously noted.)

Miss., Arkabutla.—Arkabutla Consolidated School Dist. let contracts as follows to erect school: General contract, \$14,725, to F. S. Covert, Meridian, Miss.; heating, \$983, Hammond Heating Co., Cincinnati; plumbing, \$862, Davis Plumbing Co., Jackson, Miss.; gas lighting, \$429, C. F. Shinkle Gas Co., Memphis, Tenn.; Raymond B. Spencer, Archt., Jackson, Miss. (Previously noted.)

Mo., St. Louis.—Board of Education let contract to E. C. Gerhard Building Co., St. Louis, to erect school at Central and Clayton Aves.; 24 rooms; reinforced concrete; fireproof; tile roof; reinforced concrete floor, cost \$189,072; plenum hot-blast heating system, \$63,951; lighting (no generators), \$7500; plans by R. M. Milligan, Commr. of Buildings, St. Louis. (Previously noted.)

Miss., Cary.—Trustees Cary Rural Separate School Dist., H. S. Goodman, Secy., let contract to Walker Bros. & Co. to erect school; 38x62 ft.; brick and frame; asphalt shingle roof; hot-air heat; cost \$6950. (Lately noted.)

Okla., Tulsa.—Board of Education let contract to Lattimer & Rouch, Tulsa, to erect 3 school units, school building, gymnasium and study and recitation hall; frame and

stucco; tile and Neponset wool-felt roof; frame floor; electric lights (public service); cost \$53,000; steam heat, \$10,000; Van Sicken & Collignon, Archts., 319 S. Detroit Ave., Tulsa. (Previously noted.)

S. C., Ulmers.—Trustees, Jno. F. Weekley, Chrmn., let contract to B. E. Grandy, Pickens, S. C., to erect school; 4 rooms and auditorium; brick; metal roof; artificial stone trim; ordinary construction; cost \$7000; Benson & Barbot, Archts., Charleston, S. C. (Previously noted.)

Tenn., Memphis.—Board of Education, A. A. Kincannon, Supt., let contract at \$122,887 to J. E. Hollingsworth & Co., Memphis, to erect Rozell School; plans by Jones & Furbinger, Memphis, call for 3 stories; red brick; terra-cotta trim; fireproof; auditorium, 2 stories with seating capacity of 450; 14 classrooms; library; domestic science department; gravity ventilating system; fire towers, etc. (Lately noted.)

Tex., Bardwell.—Bardwell Ind. School Dist. let contract to Jno. Dalton, Cleburne, Tex., to erect school; 96x65 ft.; 2 stories; face brick back with interlocking tile; Barrett roof; floor construction ship lap and edge grain with mat between; electric lights from local plant; cost \$21,500; heating, \$600; C. H. Linebach, Archt., Dallas. (Lately noted.)

Tex., Clarksville.—School Board let contracts to T. B. Daley, Texarkana, Tex., for plumbing and heating high school and ward school and to Barden Electric & Contracting Co., Paris, Tex., for wiring same; 60x100 ft.; 2 stories and basement; brick, stone and concrete; composition roof; wood floors; steam heat; cost \$40,000; Anderson & Wallace, General Contrs., Fort Worth; San guinet & Staats, Archts., Fort Worth. (Lately noted.)

Tex., Houston.—District No. 22, Harris County, let contract to W. F. Quast, Houston, to erect school; frame; shingle cypress roof; wood floors; O. F. Holmboe Co., Archts., Houston.

Tex., Kirbyville.—Kirbyville Independent Dist. School Board let contract to Thomas Gibson, Port Arthur, Tex., at \$38,000 to erect high school; semi-fireproof; 14 classrooms; auditorium to seat 1000; electric lights; steam heat; vacuum cleaning system; F. W. Steinman, Archt., Beaumont, Tex. (Lately noted.)

Tex., Pecos.—School Board, W. A. Hudson, Secy., let contract at \$9245 to repair school. (Previously noted.)

Tex., Schwertner.—School Board let contract to C. Jones Construction Co., Dallas, to erect 2-story interlocking tile and stucco school; cost \$9900; C. H. Leinbach, Archt., Dallas. (Lately noted.)

Tex., Victoria.—Victoria Ind. School Dist. let following contracts for erection of high school: General contract, S. M. Bailey, Victoria, \$54,877.75; plumbing and vacuum cleaner, A. S. Shaper, San Antonio, \$3685 and \$639, respectively; heating and wiring, J. L. Martin, Austin, \$7198; flooring, Marbleoid Floor Co., Dallas, \$1446; plans by C. H. Page & Bro., Austin, call for 3-story structure; 15 classrooms; fireproof; brick; Barrett specification roof. (Lately noted.)

Tex., Wichita Falls.—Clara School District let contract to erect brick school; 4 rooms; cost \$6600. Address District School Trustees.

Va., Spring Hill.—North River School Board let contract to J. Thuma & Son, Bridgewater, Va., to erect school; 39x30 ft.; brick veneer; metal roof; double floors; coal stoves; cost \$7500; G. W. Fretwell, Archt., Staunton, Va. (Lately noted.)

Va., Petersburg.—City let contract at \$79,972 to D. P. Bass, Petersburg, to erect twin school building on Jones St.; about 75x130 ft.; 8 rooms in high-school portion, 20 in elementary section; connected by cloisture; 2 stories; brick; 5 rooms equipped for industrial training; heating apparatus, etc., in

basement; brick and wood; slag and tin roofing; hardwood floors; American Heating Co.'s heating plant; electric lights; also erect school at Blanford to accommodate about 300 and cost about \$12,000. (Lately noted.)

## STORES

Mo., St. Louis.—May Department Stores Co. let contract to James Black Masonry & Contracting Co., St. Louis, to erect store building; 7 stories and basement; reinforced concrete; composition roof; concrete floors; cost \$55,000; Will Levy, Archt., Wright Bldg., St. Louis; all contracts let except mechanical equipment and architect will let those. (Lately noted.)

N. C., Hamlet.—Union Building Co. let contract to erect store, lodge and hotel building. (See Hotels.)

S. C., Columbia.—Perry-Mann Electric Co. let contract to C. M. Lide, Columbia, to erect storeroom and warehouse; 25x165 ft.; 1 story; mill construction; gravel roof; concrete floors; cost \$10,000; electric lights, \$1000; plans by owner. (Lately noted.)

Tex., Port Arthur.—W. C. Tyrell, Beaumont, Tex., let contract to McDanel & Hartford, Port Arthur, to erect store building, 44x134 ft.; 2 stories; brick and wood; Johns-Manville built-up roof; first floor, concrete; second, wood; cost \$16,000; F. W. Steinman, Archt., Beaumont. (Lately noted.)

Tex., San Antonio.—J. M. Bennett let contract to Wright & Sanders, 212 Adams Bank Bldg., San Antonio, to erect store and theater building; 50x150 ft.; reinforced concrete; 20-year Barrett specification roof; cost \$25,000; Alfred Gilles & Co., Archts., San Antonio. (Lately noted.)

Va., Richmond.—Wm. P. Wood let contract to J. T. Nuckols & Co., Richmond, to repair building at 13 S. 14th St.; will install store front, remodel interior for offices, etc.; cost \$10,000. (Lately noted under Warehouses.)

W. Va., Moundsville.—Clarence Burch will erect addition to residence and business building; C. B. Yoho, Contr., Moundsville.

## THEATERS

Mo., St. Louis.—Vaudeville Theater Co., 705 Olive St., let contract to Federal Construction Co., 812 Olive St., St. Louis, to alter theater and office building; 75x150 ft.; fireproof; composition roof; reinforced concrete floors; Otis (reused) elevator; cost \$75,000; Chas. H. Deitering, Archt., 705 Olive St., St. Louis. (Lately noted.)

Tex., San Antonio.—J. M. Bennett let contract to erect store and theater building. (See Stores.)

## WAREHOUSES

Fla., Bradentown.—American Agricultural Chemical Co. let contract to Price & Collier to erect warehouse; iron; 50x100 ft.; construction under supervision of W. V. Cheesman, Sanford, Fla., representing contractors.

Md., Baltimore.—Besche Bros. let contract to J. Henry Smith, 1426 Light St., Baltimore, to erect 2-story warehouse at 1945-47 Light St.; brick; cost several thousand dollars; will erect 2 additional stories later.

Md., Baltimore.—Belt Wharf Co. let contract to R. H. Frazier & Son, 224 W. Mulberry St., Baltimore, to erect 1-story brick warehouse in rear 938 Fell St.; 60x185 ft.; cost \$8400.

S. C., Columbia.—Perry-Mann Electric Co. let contract to erect store and warehouse. (See Stores.)

Va., Field.—Carolina Cotton & Woolen Mills Co., Spray, N. C. (Marshall Field & Co., Chicago), let contract to E. H. Clement, Charlotte, N. C., to erect warehouse and 200 operatives' cottages in connection with first unit of proposed textile plant; F. P. Sheldon & Sons, Engrs., Providence, R. I.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

Bank Protection.—U. S. Engr. Office, Savannah, Ga.—Bids until July 20 for bank protection work, Savannah River, at Augusta, Ga.

Barrels.—General Graphite Co., 1823 Jefferson Bank Bldg., Birmingham, Ala.—Prices on carload lots barrels (similar to sugar barrels) in knocked-down form; also on barrels such as used for vinegar and wine.

Bean (Velvet) Mills.—J. L. Bedsole, Thomasville, Ala.—Data and prices on velvet bean mills.

Boiler.—Spring Wheel Co., 730 Trendley Ave., East St. Louis, Ill.—Prices on boilers.

Boiler (Tubular).—See Sawmill Equipment.—Hudgson Lumber Co.

Boilers.—See Mining Machinery (Coal).—Caudill Coal Co.

Boilers.—See Canning Machinery, etc.—Florida Syrup Co.

Boilers.—See Sawmill, etc.—Econpena Lumber Co.

Boilers.—Henry Potts & Co., 650 Real Estate Trust Bldg., Philadelphia, Pa.—100 H.

P. locomotive boilers and 200 H. P. H. R. T. boilers.

**Bridge Construction.**—See Road and Bridge Construction, Bay County Comms., W. H. Marshall, Clerk, Panama City, Fla.

**Bridge Construction.**—Macon County Comms., Oglethorpe, Ga.—Bids for furnishing materials and constructing reinforced concrete bridge over Spring Creek 1 mi. from Montezuma, Ga.; bridge to contain 80 or 90 cu. yds. concrete; first of a number, for which \$100,000 was appropriated; plans, specifications, forms of proposal, etc., at office Clerk of Comms. in Oglethorpe and office of Arthur Pew, Engr., Atlanta, Ga.

**Bridges.**—See Road and Bridge Construction.—Lincoln County Court.

**Bridge Construction.**—Clerk Morgan County Court, Berkeley Springs, W. Va.—Bids until July 16 to construct 3 reinforced concrete arch bridges; plans by County Engr. and approved by State Road Commission; plans and specifications may be seen at offices of E. L. Miller, Engr., or of County Clerk at Berkeley Springs.

**Bridge (Steel) Construction.**—City of Miami, Fla., W. B. Moore, City Clerk.—Bids until Aug. 2 to construct bridge across Miami River; length 265 ft. between end piers, provide 20-ft. roadway and two 6-ft.-wide sidewalks; 6 piers and 5 steel deck spans with lumber floor, one span being double-leaf bascule; plans and specifications on file office of City Clerk and office of Harrington, Howard & Ash, Consult. Engrs., Kansas City, Mo.; copies of plans and specifications obtainable from Engrs. for \$25.

**Brushes.**—See Typewriter Accessories, etc. A. G. Rubert & Co.

**Building Materials.**—Joseph Bayan (of Buenos Aires), 203 W. 103d St., New York.—To correspond with manufacturers of products for building and decorating trades.

**Building Materials.**—See Steel I Beams, etc.—Vance County Iron Works.

**Building Materials.**—Southwestern Mausoleum Co., 517 Southern Trust Bldg., Little Rock, Ark.—Prices on materials for use on 200-crypt compartment mausoleum, to be of steel-reinforced concrete, with limestone or granite exterior and marble interior; materials to include metal doors and windows and art glass.

**Cans (Oil).**—See Typewriter Accessories, etc.—A. G. Rubert & Co.

**Cans, etc.**—Williamson Steel Stump Puller Co., Cordele, Ga.—Oil cans; ½-in. filler cap with 2 outlets, ¾ and ½ in.; tank about 1½-gal. capacity, 4 to 6-in. diam., with length to make up proper measurement.

**Canning Machinery, etc.**—Florida Syrups Co., Howard Curry, Prest., Tampa, Fla.—Prices on canning machinery, cane mills, evaporators, boilers, engines, etc.

**Cars.**—See Quarrying Plant.—Southern Machinery & Equipment Co.

**Cars.**—Mid-West Iron Co., 329 Railway Exchange Bldg., Kansas City, Mo.—20 flat cars; 30 gondolas; 80,000 lbs. capacity preferred; 5 large box cars.

**Carding Equipment, etc.**—Western Cotton Oil & Gin Co., Earl Cogden, Mgr., Haskell, Tex.—Carding machinery, cotton and cotton linter cleaners, etc., for complete mattress factory.

**Carts (Lumber), etc.**—Williams & Johnson, Norfolk, Va.—To buy lumber carts and 8 oxen.

**Cement (Portland).**—United States Engr. Office, Room 305 Southern Bldg., Washington, D. C.—Bids until July 10 to furnish and deliver at foot of 35th St., Washington, 15,000 bbls. Portland cement; information on application.

**Compressor.**—Diamond Block Coal Co., Drakesboro, Ky.—Small second-hand air compressor; 200 to 250 cu. ft. air per minute; direct connected.

**Concrete Reinforcing Rods.**—See Steel I Beams, etc.—Vance County Iron Works.

**Concrete Block Machines.**—Albert Moss, 333 44th St., Newport News, Va.—Small machine to mould building blocks; concrete mixer.

**Cranes (Locomotive; Ladle) and Steel Buildings.**—T. W. S., care Manufacturers Record, Baltimore, Md.—10 or 15-ton locomotive crane, 40-ft. boom; 25-ton open-hearth ladle crane with 10 or 15-ton auxiliary hoist; both cranes to be about 50-ft. span; steel building, 275x50 ft., with 50-ft. lean-to; steel building, about 150x100 ft., with 30-ft. lean-to.

**Cranes (Locomotive).**—Machinery Exchange Co., Bienville and David Sts., New Orleans, La.—2 or 3 log loaders and 2 10 to 15-ton locomotive cranes.

**Crushers.**—See Road Machinery, etc.—W. S. Fallis.

**Crushers.**—See Quarrying Plant.—Southern Machinery & Equipment Co.

**Crushing Machinery.**—Crushmill, care Manufacturers Record.—Second-hand Williams crushing and grinding mills; state location, price, terms, style, size, condition, etc.

**Desks (School).**—See Seating.—H. W. Garrett.

**Drainage.**—Black Bayou Drainage Dist., O. C. Kulicka, Secy., Greenville, Miss.—To let contracts July 19 (postponed date) for construction of 133 mi. drainage ditches; require 3 drag-line machines for excavation of 970,000 cu. yds. earth, and 7 floating dipper dredges for excavation of 3,700,000 cu. yds. earth; Morgan Engineering Co., Dist. Engr., 608 Goodwyn Institute Bldg., Memphis, Tenn. (Lately noted.)

**Drainage Construction.**—Drainage Dist. No. 1 of Carroll County, F. T. Tobey, Engr., Huntington, Tenn.—Bids until July 14 for 1,200,000 cu. yds. open ditch work; including laterals, length of canals will be 48 mi.; bottom width, 6 to 4½ ft.; construction by floating dredge boats for main canals and team work for small laterals; only one 3-yd. floating dredge and two 1-yd. machines; bids on each section, and then on entire work. Section 1, 630,000 cu. yds. and require 3-yd. machine; Section 2, 323,000 cu. yds. and require 1-yd. machine; Section 3, 273,000 cu. yds. and require 1-yd. machine; no pumping plants or levees; bonds for \$140,000; require 15 ditches; drain 12,500 acres for farming.

**Dyeing Machinery.**—See Knitting Equipment.—B. G. Brumby.

**Electric-light Plant.**—See Sewer and Electric-light Construction.—City of Lambert, Miss.

**Electric-light Plant.**—Econpena Lumber Co., Live Oak, Fla.—Electric-light plant for lumber mill.

**Electric-light Improvements.**—City of Apex, N. C., J. F. Mills, City Clerk.—To open bids July 11 on electric-light improvements; 5 mi. 22-kilovolt-power transmission line, sub-station building, arc light and distributing systems; plans and specifications on file office of City Clerk and are obtainable for \$5 on application to B. O. Austin, Consult. Engr., Charlotte, N. C.

**Electrical Installations.**—Dept. of Justice, Office Superintendent Prisons, Washington, D. C.—Bids until July 19 for furnishing and delivering at United States Penitentiary, Atlanta, Ga., material required for electric-light, telephone and clock installations; in accordance with specifications.

**Electrical Machinery, etc.**—Manuel J. Pineiro, Avenida Garcia Barbon 179, Vigo, Spain.—To represent manufacturers of industrial machinery; electrical apparatus and accessories; wire, galvanized and otherwise; sheet tin; bar tin.

**Elevator.**—H. W. Simpson, 300-10 Board of Trade, Norfolk, Va.—Prices on push-button elevator for hospital at Roanoke Rapids, N. C.

**Engines (Marine).**—Pennsylvania Equipment Co., 1438 S. Penn Sq., Philadelphia, Pa.—All sizes and types marine engines for Emergency Fleet Corp.

**Engine (Kerosene).**—W. C. Cronizer & Sons, Buchanan, Va.—8 to 10 H. P. kerosene engine; new or second-hand.

**Engines (Marine).**—"Marine Engines," 303 Coleman Bldg., Philadelphia, Pa.—All sizes and types of marine engines; for Emergency Fleet Corp.

**Engines.**—See Canning Machinery.—Florida Syrups Co.

**Engines.**—See Sawmill, etc.—Econpena Lumber Co.

**Engine (Side-crank).**—See Sawmill Equipment.—Hudgeon Lumber Co.

**Engineering Instruments.**—See Road Machinery, etc.—W. S. Fallis.

**Evaporator Tubes.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 3 for delivering evaporator tubes and brass tubing at navy-yard, Norfolk. Apply for proposals to supply officer, navy-yard, or to Bureau.

**Evaporators.**—See Canning Machinery, etc.—Florida Syrups Co.

**Extracting Equipment.**—C. B. Epes, Mgr. Wauchula Development Co., Wauchula, Fla.—Equipment to extract oil from plant and bottle as toilet water.

**Finishing Machinery.**—See Knitting Equipment.—B. G. Brumby.

**Feed Mixers.**—C. W. Ashcraft & Son, Florence, Ala.—Names and addresses of manufacturers of batch feed mixers.

**Filtering System, etc.**—District of Columbia Comms., Washington, D. C.—Bids until July 5 for filtering and sterilizing system for swimming pool of new Central High School Bldg.; blank forms proposal, plans and specifications from Chief Clerk, Engr. Dept.

**Garage Machinery.**—J. W. Watts & Co., Williamston, N. C.—Pulleys; belts; shafting; 8 H. P. gas or kerosene engine; band saw, 30 to 32-in.; post drill, belt driven; 8-in. jointer; new or second-hand if in A1 condition.

**Generator Sets.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 10 for furnishing and installing motor-generator sets and delivering Litzendraht wire at navy-yard. Apply for proposals.

**Ginning (Cotton) Equipment.**—Gas Engine & Electric Co., 174 King St., Charleston, S. C.—Complete cotton-ginning equipment, to include: Center-crank steam engine, 10-in. bore and 12-in. stroke; double driving pulleys; 40 H. P. tubular boiler with dome; two 70-saw gins; pneumatic elevator; press; shafting, pulleys, hangers, belting, fittings, etc.; all details must be submitted by June 29.

**Glass (Art).**—See Building Materials.—Southwestern Mausoleum Co.

**Grading.**—District Comms., Washington, D. C.—Bids until July 5 to grade streets; 25,500 cu. yds.; proposal forms, specifications and information from Chief Clerk, Engr. Dept., Room 427 District Bldg.

**Granite and Limestone.**—See Building Materials.—Southwestern Mausoleum Co.

**Grinding Machinery (Slate).**—United Slate Mining & Realty Co., 425 Reserve Bank Bldg., Kansas City, Mo.—Prices on 2 mills to grind slate at 300 per cent. mesh; plant to be established at Slatington, Ark.

**Hardware, etc.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 10 for delivering fireroom clocks, daubers, hardware, squelges, wire-rope thimbles and turnbuckles at navy-yard, Charleston, S. C. Apply for proposals to supply officer, navy-yard, Charleston, or to Bureau.

**Heating.**—Dr. J. F. Kirksey, Sedalia, Ky. Prices on heating plant for \$500 school.

**Heating Equipment.**—Peele Peanut Co., Roxobel, N. C.—Equipment to heat peanut factory; been using steam boiler, but have installed gasoline engine and discarded steam boiler.

**Heating System, etc.**—Treasury Dept., Supervising Archt.'s Office, Washington, D. C.—To open bids July 9 for new heating system, repairs to plumbing, etc., in United States Courthouse and Postoffice, Statesville, N. C.; copies of drawings and specifications obtainable at Washington and office of custodian.

**Hoist (Electric).**—See Mining Machinery (Coal).—Hartshorne Coal Co.

**Hydro-electric Equipment.**—See Road Machinery, etc.—W. S. Fallis.

**Hydro-Electric Equipment.**—John N. Adams, Engr., Charleston, Tenn.—Machinery for hydro-electric plant of 1800 H. P. for electric-lighting and railway.

**Ice Machine.**—Roanoke Ice & Fuel Co., Rosemary, N. C.—5 or 6-ton ice plant; second-hand.

**Ice Machinery.**—Lange Soap Co., J. W. Ruwe, Mgr., San Antonio, Tex.—Data and prices on raw water ice machinery.

**Ironworking Machinery.**—F. S. Arturo, Genoa, Italy.—Data and estimates on large plate-rolling mill with electrical equipment; 10,000 H. P.; also on rolling mill with rolls or 2800-3000 mm. table length, together with main driving motor; 3 mills for section irons, with rolls of average diam. 350 mm.; 3 rolls or double duos with rolls of average diam. 300 mm.; these 2 rolling mill plants to be complete with main electrical driving engines; has 3-phase at 5000 volts for main motors and continuous current at 500 volts for secondary motors.

**Iron Work, etc.**—Benjamin Hassoch, Grosby, Caucasus.—To represent American manufacturers of: Iron girders; steel; iron; shoes; dry goods; soft goods; leather chevrons and chrome; steel wire ropes for baling and drilling; gas tubing and pipe lines; belting leather; rope.

**Knitting Equipment.**—Thomas Parker, Cash. Bank of Rocky Ford, Rocky Ford, Ga.—Data and prices on machinery equipment for knitting mill.

**Knitting Equipment.**—B. G. Brumby, Mgr. Marietta Chair Co., Marietta, Ga.—Complete equipment for mill with daily capacity 500 doz. pairs half-hose, dyed and finished.

**Lard Machinery.**—Lange Soap Co., J. W. Ruwe, Mgr., San Antonio, Tex.—Data on manufacture of compound lard and prices on machinery.

**Laundry Equipment.**—H. W. Simpson, 309-10 Board of Trade, Norfolk, Va.—Prices on laundry equipment for hospital at Roanoke Rapids, N. C.

**Locomotive.**—See Quarrying Plant.—Southern Machinery & Equipment Co.

**Locomotive.**—Box 391, Birmingham, Ala.—36-in. gauge Mogul locomotive; 11 to 14-in. cylinder; modern engine, but make repairs if price attractive. Address Box 391, Birmingham, Ala.

**Locomotive, etc.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 3 for delivering locomotive, torpedo bronze, ebonite, dotters, lathes, mica and trailer trucks at navy-yard, Washington, D. C. Apply for proposals to Bureau.

**Locomotive.**—Southern Machinery Exchange, Somerset, Ky.—35 to 45-ton standard-gauge locomotive; in good and serviceable condition.

**Lumber.**—Bunge Freres, 124 Boulevard de Strasbourg, Havre, France.—Silver spruce, guaranteed from Virginia, in beams absolutely free of knots; fine grain, light white color, quarter sawn, length 10 to 25 ft., with 30 per cent. of over 18 ft.; wide 6 to 15 in.; thickness 2 and 3 in., a little 2½-in. permissible.

**Machine Tools.**—S. J. Stewart, 312-14 Carondelet St., New Orleans, La.—Fox lathe; punch press; rotary shears; shaper.

**Machine Tools.**—Navy Dept., Bureau Yards and Docks, Washington, D. C.—10-ft. radial drill, at Philadelphia, schedule 1272; 2 air-operating forging hammers, at South Charleston, W. Va., schedule 1265; 3 combination thread milling and turret machines, at South Charleston, schedule 1264.

**Machine Tools.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 3 for forging hammers, lathes, cutting-off, milling, threading and turret machines, f. o. b. South Charleston, W. Va.

**Machinery (Industrial).**—See Electrical Machinery, etc.—Manuel J. Pineiro.

**Machinery Tools.**—Spring Wheel Co., 730 Trendley Ave., East St. Louis, Ill.—Prices on lathe, bolt cutter, presser, boiler and motors.

**Mattress Machinery.**—See Carding Equipment, etc.—Western Cotton Oil & Gin Co.

**Metal Doors and Windows.**—See Building Materials.—Southwestern Mausoleum Co.

**Metals, Fence and Gates, Tubing, etc.**—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids until July 12 to furnish wrought-iron fence and gates, galvanized steel, planished iron, strap iron, stovepipe, horseshoes, track bolts, boat spikes, nails, cable clips, track chisels, bronze, copper, brass, brass and copper tubing, bearing metal, babbitt metal, sheet tin, plate zinc, solder, link fuses, fusible plugs, picks, shovels, crucibles, rubber tires, water-closets, manila rope, oakum and fire brick; blanks, etc., relating to circular (No. 1152) obtainable at this office or offices assistant purchasing agents, 24 State St., New York; Audubon Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engr. offices throughout United States.

**Metal Specialties.**—W. R. Gatlin, Archt.-Engr., Hopkinsville, Ky.—To correspond with manufacturers of paper specialties relative to manufacture of metallic strip fastener for envelopes; in quantity.

**Metal Tags.**—H. F. Wilhelm Wehe, Dept. Agriculture, Austin, Tex.—Names and addresses manufacturers of metal cotton tags.

**Milk (Condensed).**—Bunge Freres, 124 Boulevard Strasbourg, Havre, France.—Names and addresses of manufacturers of sweetened and unsweetened condensed milk.

**Motors (Electric).**—Spring Wheel Co., 730 Trendley Ave., East St. Louis, Ill.—Prices on electric motors.

**Mining Machinery (Coal).**—Hartshorne Coal Co., Owen McHugh, Mgr., Hartshorne, Okla.—Prices on electric hoist, pump and fan.

**Mining Machinery (Coal).**—Caudill Coal Co., E. S. Moss, Prest., Williamsburg, Ky. Prices on boilers and mining machinery; 40 to 60-lb. railroad and mine rail; for operation Whitesburg, Ky.

**Motors (Electric).**—See Wireworking Machinery, etc.—P. E. Costopoulos.

**Motors (Electric).**—Nathan Klein & Co., 208 Center St., New York.—Electric motors.



**Nail Machinery.**—See Wireworking Machinery, etc.—P. E. Costopoulos.

**Overall and Cap Machinery and Materials.** Champion Relief Assn., J. M. Tate, Secy.-Mgr., Canton, N. C.—Data on manufacture of overalls, jackets, shirts, caps, etc., with prices on machinery and on materials, including buttons, hooks, cotton cloth, clasps, thread, etc.

**Paving.**—Eastern Development Co., 806 Lexington Street Bldg., Baltimore, Md.—Bids to construct concrete streets, 18 ft. wide, at Graceland Park; particulars on application.

**Paving.**—City of Charlottesville, Va., C. E. Moran, City Clerk.—Bids until July 7 to construct 4000 ft. concrete pavement on Free Bridge Rd., partly in city and partly in Albemarle County; plans may be seen and specifications and proposal forms obtained from City Mgr., Charlottesville.

**Paving.**—Baltimore (Md.) Board of Awards, City Hall.—Bids until July 3 to pave Woodberry Ave. from Pimlico Circle to Green Spring Ave.; Contract No. 155-A; 4800 sq. yds. concrete paving, 5000 cu. yds. grading; specifications obtainable from Comms. for Opening Streets, John H. Robinette, Prest., City Hall.

**Paving.**—City of Cumberland, Md., Ralph L. Rizer, City Engr., City Hall.—Bids until June 30 to pave and otherwise improve 7 streets; 5205 lin. ft. concrete curb and 18,630 sq. yds. cement concrete paving; plans and specifications obtainable from City Engr. for \$1.

**Paving.**—Town of South Baltimore, N. C., F. A. Walton, Mayor, 14½ Baltimore Ave.—Bids until July 12 to widen and pave Summit, Reed, Irwin and Church Sts.; plans and specifications from Mayor any time prior to July 2.

**Paving.**—City of Bristow, Okla.—Benham Engineering Co. of Oklahoma City, Engr.—Bids until July 2 for Street Improvement Dist. No. 1 paving.

**Paving and Sewer Construction.**—City Comms., Huntington, W. Va.—Bids until July 11 to grade, curb and pave 6th Sts. from 11th to 12th Sts.; also construct about 2 mi. of sewers of 10, 12 and 15-in. tile; plans, specifications, etc., on file with A. B. Maupin, City Engr.; O. H. Wells, Commr. Streets, Sewers, etc.

**Peanut Machinery.**—Lange Soap Co., J. W. Ruwe, Mgr., San Antonio, Tex.—Interested in data on peanut machinery and in prices on machinery for peanut hulling, blanching, oil extracting, etc.

**Peanut Mills.**—J. L. Bedsole, Thomasville, Ala.—Data and prices on peanut mills.

**Pipe Machines.**—G. J. Adams, Consult. Engr., 39 South St., New York.—Two 8-in. pipe machines.

**Pipe and Tubing.**—Navy Dept., Bureau Yards and Docks, Washington, D. C.—9500 lbs. lead pipe, at Washington, schedule 1256; 20,000 lbs. seamless brass tubing, at Norfolk, schedule 1260.

**Piping.**—Mid-West Iron Co., 329 Railway Exchange Bldg., Kansas City, Mo.—Large quantities well casing; new or second-hand.

**Piping, etc.**—Henry Potts & Co., Real Estate Bldg., Philadelphia, Pa.—Cast-iron pipe; bell and spigot type.

**Planetarium Manufacturers.**—N. W. Hurst, Eastman, Ga.—To let contract for manufacture of planetarium.

**Press (Trimming).**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 10 for delivering motor-driven trimming press, f. o. b. South, Charleston, W. Va. Apply for proposals.

**Producers (Gas).**—See Rolling Mill Equipment, etc.—N. B. C.

**Pumps, etc.**—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 10 for delivering force pumps, hardware, steel tubing, etc., at navy-yard, Norfolk. Apply for proposals to supply officer, navy-yard, Norfolk, or to Bureau.

**Quarrying (Sand and Gravel) Machinery.** Piedmont Sand & Stone Co., Frank L. De Vane, Box 571, Greensboro, N. C.—Will want prices on sand and gravel machinery.

**Quarrying Plant.**—Southern Machinery & Equipment Co., 1114 Peoples Natl. Bank Bldg., Lynchburg, Va.—Prices and full description on rock crushers; rail; locomotive and cars; narrow-gauge equipment suitable for quarry and rock-crushing plant; also on any other quarrying and rock-crushing equipment.

**Rails.**—See Quarrying Plant.—Southern Machinery & Equipment Co.

**Rails.** See Mining Machinery (Coal).—Caudill Coal Co.

**Rails.**—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—One car load 16-lb. relay rail and one ml. 40-lb. relay rail; equipped with splice bars; wire what you can furnish.

**Rams (Hydraulic).**—Chert Mountain Orchards, Keyser, W. Va.—Data and prices on high-duty hydraulic ram.

**Road and Bridge Construction.**—Lincoln County Court, Albert F. Black, Clerk, and Advisory Committee, Hamlin, W. Va.—Bids until Aug. 16 to construct roads and bridges; bridge across Two-Mile Creek at West Hamlin and 4 small bridges or culverts; bridge across Upper Two-Mile Creek, near Sheridan Station; 6 ml. road from West Hamlin to Hamlin; plans and specifications on file with Clerk and J. M. Oliver, Civil Engr., Huntington; date of opening bids postponed from July 2; lately noted.

**Road Construction.**—Fayette County Commissioners, La Grange, Tex.—Bids until July 10 to construct east approach to Colorado River bridge; length 500 ft.; roadway 18 ft.; plans and specifications from office R. Klatt, County Clerk.

**Road Construction.**—State Highway Commission, Office of Division Engr., 409 McKevitt Bldg., Norfolk, Va.—Bids until June 29 to construct 10 ml. graded earth road; plans and specifications on file at Clerk's office, Portsmouth, and with State Highway Commission, G. P. Coleman, Commr., Richmond, Va.

**Road Construction.**—Comms. Road Improvement Dist. No. 1, Jackson County (R. B. Hooker and others), Newport, Ark.—Bids until July 2 to furnish gravel and construct 10 ml. of road; 97,000 yds. gravel, 450 lin. ft. 18-in. tile, 28 lin. ft. 24-in. tile, 84 lin. ft. 30-in. tile, etc.; plans and specifications on file with Bowman & McDearmon, Engrs., Newport.

**Road and Bridge Construction.**—Bay County Comms., W. H. Marshall, Clerk, Panama City, Fla.—Bids until July 10 on following road construction: Division No. 1, 157,000 sq. yds. vitrified brick, asphalt, asphaltic concrete, cement concrete or tar and gravel and sand-clay, or similar pavements, complete with grading, pipe drains, curbing, etc.; division to be let as whole or divided into two contracts, according to surfacing material selected; Division 2, 210,000 sq. yds. gravel paving, 92,000 sq. yds. sand-clay and 20,000 lin. ft. top-soil surfacing, complete with grading, pipe drains, etc.; to be let as one contract; Division 3, 123 ml. clearing, grubbing, grading and shaping of roadways, complete with pipe drains, etc.; division to be let as whole, or separate or combined contracts; about 5300 lin. ft. bridge construction, complete with substructures; plans and specifications may be seen at office of County Clerk or of E. V. Camp, Consult. and Supervising Engr., Box 438, Panama City, and specifications are obtainable for \$2 on application to either Clerk or Engr.

**Road Improvements.**—McCormick County Comms., J. J. Dorn, Chrmn., McCormick, S. C.—Bids until July 18 for grading and construction of drainage structures on 70 ml. road; plans and specifications on file office of M. E. Worrell, County Highway Engr., McCormick, on and after July 5.

**Road Machinery, etc.**—W. S. Fallis, State Highway Engr., Commercial National Bank Bldg., Raleigh, N. C.—Catalogues of road machinery; steam shovels and excavators; concrete mixers; rock crushers; hydraulic and electric equipment for farms; transits; drafting instruments; filing cabinets.

**Rolling Mill Equipment, etc.**—N. B. C. care Manufacturers Record, Baltimore, Md. Prices on 18 or 20-in. hot rolling mill, 3 high rolls; 10 or 12-in. band mill, 3 high rolls; 2 bituminous gas producers with capacity for 300 lbs. coal per hour; hot or cold rolling mill equipment.

**Roofing.**—Bunge Freres, 124 Boulevard Strasbourg, Havre, France.—Names and addresses of manufacturers of roofing materials capable of lasting 6 to 8 years; low ocean freight rate.

**Sacks (Ore).**—General Graphite Co., 1823 Jefferson Bank Bldg., Birmingham, Ala.—Prices on sacks for shipping ore from mines to mill.

**Saws (Metal).**—See Rolling Mill Equipment, etc.—N. B. C.

**Sawmill, etc.**—Econopena Lumber Co., Live Oak, Fla.—Sawmill machinery for daily capacity 75,000 ft. lumber; boilers; engines; belting; transmission equipment.

**Sawmill Equipment.**—Hudgson Lumber Co., Richard Reid, Secy., Star City, Ark.—Prices on complete sawmill equipment, 25,000 ft. daily capacity; 40 H. P. tubular boiler; 35 H. P. side-crank engine; No. 4 or

No. 5 saw rig with substantial friction feed works, no-top saw, mill to cut pine exclusively, extension mandrel; carriage with rope feed, 2 head blocks, double-action set works; 100-ft. dust conveyor; 3-saw gang edger; cut-off saw.

**Seating.**—H. W. Garrett, Town Clerk, Doerun, Ga.—Prices on desks and seats for auditorium of \$15,000 school.

**Sewage-disposal Plant.**—Eastern Development Co., 806 Lexington Street Bldg., Baltimore, Md.—Bids to construct independent sewage plant at Graceland Park; particulars on application.

**Sewer and Electric-light Construction.**—City of Lambert, Miss., W. M. Womack, Mayor.—Will let contract July 3 to construct sewer system and electric-light plant; W. H. James, Sumner, Miss., Engr. for sewer construction. (Lately noted.)

**Sewer Construction.**—City of Ada, Okla., Benham Engineering Co. of Oklahoma City, Engr.—Bids until July 10 for sanitary sewer construction, Dist. No. 5.

**Sewer Construction.**—See Paving and Sewer Construction, City Comms., Huntington, W. Va.

**Sewer Construction.**—City Commissioners, Clarksdale, Miss.—Bids until July 3 to construct 6th St. storm sewer, comprising 5700 ft. vitrified sewer pipe from 15 to 27 in. in diam., 1000 ft. 10-in. connections, manholes and inlets; plans and specifications obtainable for \$5 from W. S. Bobo, City Engr.

**Sewer Construction.**—Office of City Auditor, Tulsa, Okla.—Bids until July 2 to construct sanitary sewer, including laterals, connections, etc., in Sewer Dists. Nos. 123, 124 and 29; plans, profiles and specifications on file with H. H. Wyss, City Engr.

**Sewer Construction.**—City of Graham, Tex., E. S. Graham, Mayor.—Bids until July 2 to construct sanitary sewer system and disposal plant; plans and specifications from Henry Exall Elrod, Engr., 505 Interurban Bldg., Dallas, for \$5.

**Shafting.**—See Steel, etc.—Ferguson Mfg. Co.

**Smokestack.**—G. J. Adams, Consult. Engr., 39 South St., New York.—42-in. smokestack, 50 ft. long.

**Steam Shovels.**—See Road Machinery, etc. W. S. Fallis.

**Steel, etc.**—Ferguson Mfg. Co., E. C. Ferguson, Secy., Suffolk, Va.—Several tons ¾ x 1-in. C. R. steel shafting and flat soft steel; October and November delivery.

**Steel Buildings.**—T. W. S. care Manufacturers Record, Baltimore, Md.—Prices on steel buildings; one 275x50 ft., with 50-ft. lean-to; one 150x100 ft., with 30-ft. lean-to. (See Cranes.)

**Steel Cells, etc.**—Dept. of Justice, Office Supt. of Prisons, Washington, D. C.—Bids until July 9 for furnishing and delivering at United States Penitentiary, Atlanta, Ga., steel cell fronts and mechanical locking

device for entire cell blocks in east main cell wing; also reinforcing material and structural and miscellaneous steel, iron and brass work for cell blocks; also for plumbing fixtures, valves, plumbing pipe, fittings and materials; specifications upon application.

**Steel I Beams, etc.**—Vance County Iron Works, Henderson, N. C.—Prices on large quantity steel I beams, concrete reinforcement rods, etc.; for use in new buildings—enlargement of plant.

**Steel-studding Machine.**—Sere & Bestelro, 735 E. Houston St., San Antonio, Tex.—Machine to put steel studs on automobile tires.

**Tank.**—See Cans, etc.—Williamson Steel Stump Puller Co.

**Tank.**—Mid-West Iron Co., 329 Railway Exchange Bldg., Kansas City, Mo.—40,000-gal. tank on 85-ft. tower; steel or wood; Kansas delivery.

**Tank (Oil).**—Hackley Morrison, 16½ N. 9th St., Richmond, Va.—Oil storage tank, 6000 to 8000 gals.; square, rectangular or round; top open or closed.

**Tanks (Wooden).**—Commercial Groves Co., C. J. Earley, Gen. Mgr., Bradentown, Fla.—Wooden tanks; second-hand.

**Typewriter Accessories, etc.**—A. G. Rubert & Co., Villa Urrutia-Irila-Barri, Bilbao, Spain.—To represent manufacturers of: Accessories for typewriting machines; ribbons; oil cans; brushes for type; brushes for machinery; erasing gums; pads and tampons; carbon paper; hictograph and copying paper.

**Ventilating Fan.**—Jonesboro Supply House, Jonesboro, Tenn.—Second-hand ventilating fans.

**Water System Extension.**—Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids until June 25 for 2575 feet of 4-in. cast-iron water main at Naval Radio Station, Radio, Va.; plan and specification No. 2432 on application to Bureau.

**Water-works.**—Eastern Development Co., 806 Lexington Street Bldg., Baltimore, Md.—Bids to lay water mains at Graceland Park; also to install storage tanks, gas engines and piping for independent water system.

**Wire.**—See Electrical Machinery, etc.—Manuel J. Pineiro.

**Wire Work (Bent).**—S. Warren, Gainesville, Fla.—To correspond with manufacturers of bent wire work.

**Wireworking Machinery, etc.**—P. E. Costopoulos, P. O. B. 355, Alexandria, Egypt.—Catalogues, prices and particulars on nail-making machines; machines manufacturing wire for nails; electric motor; nail wire.

**Wood Mill Machinery.**—L. J. Bombardier Co., Charlotte, N. C.—To correspond with manufacturers of wood mill machinery.

**Woolen Machinery.**—J. W. Ragland, Newland, N. C.—Addresses of makers of machinery for manufacturing blankets and robes.

## RAILROAD CONSTRUCTION

### RAILWAYS

**Ark., Dalhoff.**—Missouri Pacific Railroad Co. will build 3.8-mi. spur from Dalhoff to the United States cantonment north of Argenta, Ark. J. J. Ball of Little Rock, Ark., is contractor for roadbed. E. A. Hadley, St. Louis, Mo., is Chief Engr.

**Fla., Okeechobee.**—Florida East Coast Railway Co. is making a reconnaissance between Okeechobee and West Palm Beach, about 60 mi., to acquire information. This refers to the recent report that the company contemplates construction of a line between the two points. E. Ben. Carter, St. Augustine, Fla., is Chief Engr.

**Ga., Waycross.**—Atlanta, Birmingham & Atlantic Railway is reported surveying via Folkston, Ga., for the contemplated extension to Jacksonville, Fla., about 75 mi. A report from Atlanta says the company has not yet announced plans. L. L. Beall, Atlanta, is Chief Engr.

**Md., Annapolis Junction.**—Baltimore & Ohio Railroad and Pennsylvania Railroad will each spend about \$150,000 for tracks, etc., to reach the proposed United States Army cantonment near Annapolis Junction; also to connect with each other and with the Washington, Baltimore & Annapolis Electric Railway, which runs through the camp site. R. N. Begien is Chief Engr. of the B. & O. at Baltimore, and A. C. Shand is Chief Engr. of the Pennsylvania at Philadelphia.

**Md., Baltimore.**—Baltimore & Ohio Railroad Co. has let contract to H. S. Kerbaugh, Inc., Munsey Bldg., Baltimore, for the construc-

tion of branch near Bay View Junction, in the suburbs of Baltimore, to Sparrows Point, Md., 8 mi., to connect with the Bethlehem Steel Co.'s plant there. Contract also covers wooden trestle 1000 ft. long over Bear Creek. R. N. Begien, Baltimore, is Chief Engr.

**Md., Annapolis Junction.**—The Washington, Baltimore & Annapolis Electric Railway Co. is expected to make extensive track improvements near Annapolis Junction for the Army cantonment to be established there. J. J. Doyle, Baltimore, is Gen. Mgr. and Purchasing Agent.

**Md., Cambridge.**—The Delaware & Maryland Traction Co. is reported to have obtained the franchises granted several years ago to the Fox Creek Railroad Co. of Dorchester County, and the Peninsula Traction Co. of Talbot County, Md., and will use them in carrying out its plans for the construction of an electric interurban railway designed to connect Wilmington and Newark, Del., Elkton, Chestertown, Centerville, Easton, Cambridge and other leading towns on the Eastern Shore of Maryland, and others in Delaware as far south as Salisbury, Md. De Armond Linder, Franklin Bank Bldg., Philadelphia, and others, are interested.

**Miss., McComb City.**—Grading of the proposed electric railway to connect McComb City, Magnolia and Fernwood, about 10 mi., it is reported, will begin within two weeks by the Magnolia Light & Railway Co., options for right of way having been closed.

**N. C., Sanford.**—Atlantic & Western Ry. Co. is reported to have again taken up the plan to build an extension from Lillington to Swansboro, N. C., about 100 mi. H. P.

Edwards, Sanford, is Gen. Mgr. and Pur. Agt.; H. C. Huffer, Jr., 31 Pine St., New York, is Prest.

Tenn., Chattanooga.—Central of Georgia Railway Co. denies recent press report that it would build double track between Chattanooga and Lytle. As to the loop through Chickamauga Park from Brumby to Wilder, Ga., that depends on the awaited decision of the Federal Government concerning one or more cantonments at the Park.

Tex., Marietta.—Jefferson & Northwestern Railway is building an extension from Camp to Marietta, 6½ mi., work being about two-thirds complete. H. B. Montgomery is Ch. Engr., located at Marietta during construction. Mrs. A. D. Clark is Prest.; F. I. Clark, V.-P. and Gen. Mgr., and H. W. Adams, Secy., all of Dallas, Tex.

Tenn., Nashville.—Illinois Central Railroad Co. according to a local report, is planning to build a new line between Nashville and Chattanooga, about 125 mi., in connection with contemplated acquisition of the Tennes-

see Central Railroad. A. S. Baldwin, Chicago, Ill., is Chief Engr.

Va., Sulphur Mines.—Mineral Belt Railway Co. has let contract to G. P. Clay of Richmond, Va., to build line 10½ mi. long from Sulphur Mines, on the Chesapeake & Ohio Railway, through rolling country, to Valzino, Va., including one trestle approach 390 ft. long of steel and concrete piers. Berkeley Williams of Richmond is Prest.; James M. Harris of Blackstone, Va., V.-P.; H. H. Chalkley, Secy., and Norwood Bentley, Treas., both of Richmond; directors, Berkeley Williams, H. H. Chalkley, D. T. Kennedy, S. H. Bemiss, L. M. Williams, S. Lee Dance and W. Mac Jones, all of Richmond.

W. Va., Fayetteville.—Virginian Ry. Co. is reported building several branches, as follows: From Elmore down the Guayadotte River 6 mi. to three coal mines; from Fireco, 4 mi.; along Beaver Fork, 2 mi., for the Loup Creek Colliery Co. H. Fernstrom, Norfolk, Va., is Ch. Engr.

ping in large masses. Three grades of silica, from standpoint of color, have been located, these being white, yellow streaked and red and brown. The white silica is said to be the most desirable for manufacturing glass of high grade, and, judging from the preliminary investigation, sufficient material is present within one-half mile of the main line of the railroad to warrant further investigation. The silica deposits analyze as follows: Silica, 99.58 per cent.; iron oxide, .05 per cent.; aluminum oxide, .25 per cent.; other matter, .12 per cent. In outlining the conditions favorable for the development of these deposits, the company sets forth the following facts: High grade is shown by analysis; enormous deposit of material; economical mining conditions; ample water supply; proximity to hydro-electric power; convenient shipping facilities; mild climate, allowing operations the year round.

#### Stroh Steel-Hardening Described.

"The Stroh process is a method for casting the finest alloy steel together with ordinary soft steel in one solid piece. The resultant casting has a wear-proof alloy steel stratum upon the wearing surfaces, while the body is composed of any desired steel and is in no way affected. This alloy can neither come loose, nor spall, nor spread or flow. Its depth or thickness, its location and its hardness are completely controlled and are varied according to the size of the piece and nature of service expected." With this introductory statement the Stroh Steel Hardening Process Co., Pittsburgh, Pa., in its most recent publication relating to its business, proceeds to describe and illustrate in the most entertaining and instructive manner its methods of manufacturing carbon steel, titanium, vanadium, nickel or manganese steel castings of not less than 50 pounds weight, with or without the Stroh process. Among the articles made are "wear proof" gears of various sizes and kinds, steel spindles, pinions, slugger rolls, cement mill castings, mine car wheels, etc., besides a variety of other machinery parts requiring great wearing qualities. "The actual percentage of the weight of a steel casting which is worn away in practice is generally very small," says this book. "For illustration: The teeth of the average gear constitute less than 10 per cent. of the total weight. A worn tooth weighs one-half as much as a new. The remainder, or 95 per cent., has been used merely for supporting weight or stress and is never worn out. It is quite obvious that a hard material is of no benefit in this greater portion and is nearly always detrimental. . . . But to get such an alloy (the Stroh alloy) in and on the parts subject to actual abrasion, and still to keep the easily machined and cheaper material in the other 95 per cent., means to combine the advantage of both at about three cents per pound additional instead of 90 cents. This is exactly what the Stroh process does." The book will amply repay perusal in detail.

#### TRADE-LITERATURE

##### Ohio-Tested Porcelain.

"Preparedness," in large type, is at the head of a new bulletin and price list issued by the Ohio Pottery Co., Columbus, Ohio, which produces Ohio-tested porcelain, support and encouragement for which it asks to help make this country self-contained and industrially independent of others. The bulletin is well illustrated, showing the different patterns of laboratory porcelain goods that the company manufactures, with full information as to sizes, lasting qualities, etc.

##### A Public Service Handbook.

"Public Service Properties, 1917," has been issued by W. S. Barstow & Co., Inc., 50 Pine St., New York. This book, a neat manual bound in cloth, presents in convenient form general data regarding public utility companies with yearly gross earnings in excess of seven million dollars. Each company maintains a separate and distinct organization with its own board of directors, officers, accountants, etc. All are operated under the regulation of State public service commissions. Any statistics not given in this publication will be furnished by Barstow & Co. to any holder of securities on application.

##### Sash Operating Devices.

"Sash Operating Devices" is the subject of Catalog No. 4 of the Payson Manufac-

turing Co., 216-28 Jackson Blvd., Chicago with New York office at 97 Reade St. The book is copiously illustrated displaying the different patterns of goods manufactured, which cover regular and special sash operating devices for railroad shops, power-houses, manufacturing plants, conservatories and government buildings. The company has an old and large establishment producing a great variety and complete line. Long experience enables it to solve any kind of sash problem as well as to promptly and accurately fill orders, large and small.

#### Nagle Air Compressors.

Bulletin No. 27, June, 1917, issued by the Nagle Corliss Engine Works, Erie, Pa., describes the Class "A-E" and Class "B-E" steam and power driven air compressors manufactured at the Erie works. The former is belt driven and the latter steam driven. This new type of compressor, it is stated, is the result of many years' experience in the manufacture of engines and air compressors. It has been the aim of the makers to produce a compressor as simple as possible and yet able to withstand the most severe strains. The new type is economical to operate and also furnishes a steady and satisfactory supply of compressed air.

#### Chicago Pneumatic Tool Air Compressors.

"Gas and Gasoline-Driven Air Compressors" are described in Bulletin 34-Y of the Chicago Pneumatic Tool Co., Chicago, which says: "For eighteen years the Chicago Pneumatic Tool Co. has maintained a reputation as the maker of air compressors of the highest quality. The production of the Siple Flat Disc Air Inlet and discharge valves stamped this company, once and for all, as one of the recognized leaders in the compressed air field. These valves have made possible very high compressor speeds and efficiencies—as high in fact as any known. Sixty thousand of these valves have been placed in service without a single serious complaint resulting."

#### Link-Belt Silent Chain Drive.

"The selection of the correct power transmission for the varied types of machinery used in the modern textile mill today must be accorded the same careful thought that is given to the manufacture of the product of the mill, if the best results are to be obtained," says the Link Belt Co., Philadelphia, Chicago and Indianapolis, on the first page of its new book, No. 258, concerning "The Ideal Drive for Textile Machinery." This also says that the Link Belt Silent Chain Drive will transmit 98.2 per cent. of the power created, under any conditions of load. It requires minimum attention and gives reliable, efficient service. An abundance of excellent illustrations show the application of this drive.

#### Artificial Light for Photography.

Electric lamps for photographic purposes are described in Bulletin No. 78 of the Cooper-Hewitt Electric Co., Eighth and Grand Sts., Hoboken, N. J. It says: "That the Cooper-Hewitt light has proved a perfect substitute for daylight for photographic purposes has been substantiated by over 14 years' experience. . . . Improvements in mechanical details and electric operation have widened the scope and facilitated the operation of the light. The perfecting of the automatic lighting or starting device makes it possible to control the lamps from the switch and eliminates the mechanical tilting of the tubes for lighting." Either direct and alternating current outfits are provided, but special alternating current outfits are made which can be adjusted to direct current supply. The bulletin is illustrated.

#### Cleveland Dock Stood the Test.

A report on a reinforced concrete dock and ore floor, built in 1909 for the Detroit Iron & Steel Co., is presented with illustrations in Bulletin No. 1 of the Cleveland Dock Engineering Co. of Cleveland, O. This describes how the structures have stood up under the severe conditions of daily service. The site of the dock was marsh land, and experience with previous dock construction was unsatisfactory. The report says that "this dock and ore floor, set over practically nothing but mud, has for seven years satisfactorily met every test of hard service. . . . As a rigid structure the dock will withstand the tremendous impact of the laden moving ore boat. Loads are well distributed. Heavy loads can be carried by the dock without having it develop a tendency to slide outward."

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

#### Removal of Office.

It is announced by the Westinghouse Electric & Manufacturing Co. that the Philadelphia office of the Cooper Hewitt Electric Co., manufacturer of mercury vapor lamps, has been moved from 124 S. 8th St. to the Drexel Bldg.

#### New Foundry Will Open Soon.

The National Castings Co., Marietta, Pa., announces that its new foundry will be opened on July 2 for the production of grey iron and semi-steel castings; also that specifications will receive prompt service.

#### Manager Appointed.

The Walter A. Zelnicker Supply Co., St. Louis, announces the appointment of Karl W. Bock as manager. He was for the last ten years secretary of and assistant to the vice-president of the Union Pacific Coal Co. and subsidiary coal companies at Omaha, Nebraska.

#### Corrugated Metal Culverts.

Large contracts for corrugated metal culverts, for use on the State highways of Kentucky, have recently been let to the Canton Culvert & Silo Co. of Canton, O., by the counties of Clinton, Bourbon, Madison, Jessamine and Greenup. It is stated that high quality, good deliveries, a satisfactory surety bond and right prices were factors involved in securing these contracts.

#### Electric Machinery Dividends.

An extra dividend of 1 per cent. on the common stock for the quarter ending June 30 has been declared by the directors of the Crocker-Wheeler Company, electrical machinery manufacturers of Ampere, N. J. They also declared the regular dividends of 1½ per cent. on the preferred and 2 per cent. on the common stock for the same period. A special dividend of one-half of 1 per cent. for the benefit of the American Red Cross was also declared by the board, and it will be known as the Red Cross dividend.

#### A New President Elected.

The untimely and widely regretted death of J. A. Bookwalter necessitated the election of a new president for the James Leffel & Co., hydraulic engineers and manufacturers of turbine water-wheels, Springfield, O., and George R. Prout has been elected to that position. He is a well-known business man of Springfield. There were no other changes in the personnel of the company. A. F. Sparks remaining as vice-president and general manager, A. L. Baylor, secretary, and B. F. Kauffman, treasurer.

#### Trump Manufacturing Co. Reorganized.

The Trump Manufacturing Co., Springfield, Ohio, has reorganized with \$125,000 capital and new officers. For several years it was in the hands of receivers and the receivership was terminated April 13. The

officers are J. J. Hoppes, Prest.; George A. Biggs, Vice-Prest. and Chief Engr.; J. J. Zellers, Secy. and Treas.; and J. F. Trump, Gen. Mgr. Since its reorganization the company has been extremely busy in its work of building water-wheels, having secured in the last 60 days a volume of business nearly equal to the total of orders received last year.

#### Refrigerating and Ice Machines.

Since its last report, May 19, the York Manufacturing Co., York, Pa., has made 130 installations of its refrigerating and ice-making machinery, including 30 in the South and Southwest, among those being an eight-ton vertical, single-acting, belt driven, enclosed type, refrigerating machine and high-pressure side complete for cooling drinking water at the Congressional Library, Washington. Miscellaneous material was also furnished on this order. In the same city, for the Washington Market Co., it installed a 175-ton vertical, single-acting, belt driven, refrigerating machine and miscellaneous material, including a 36-inch by 12-foot vertical ammonia accumulator and a 24-inch by 12-foot ammonia receiver. Five of the installations were made at as many different places in El Paso, Tex. The popularity of this machinery is shown by the wide distribution of the orders, for they come from all parts of the country.

#### Valuable Water-Powers to Be Sold.

Two water-power properties on New River in West Virginia, which present industrial opportunities, are to be offered for sale for a trust estate, according to a formal announcement in another column, at 4 P. M. Monday, July 23, at the Federal Bldg., Charleston, W. Va. It is stated that the properties are respectively of 8500 and 22,000 horse-power, and the land with them totals 1665 acres. They are heavily timbered and one is underlain with coal. Besides, they are on a trunk-line railroad. The Chesapeake & Ohio, which traverses each property (they are 42 miles apart), from end to end and it is immediately adjacent to the power-house sites. Taxes on property undeveloped are said to be very low. The sale will include all timber, mineral, riparian, flowage and other rights on the land. It is stated that the power can be developed at a low cost. J. M. Morehead, People's Gas Bldg., Chicago, Ill., is the executor in charge.

#### Important Silica Deposits Discovered.

Announcement is made by J. M. Mallory, industrial agent of the Central of Georgia Railway, that the company's geologist, J. K. Roberts, has discovered important silica deposits in its territory three miles east of Alexander City in Tallapoosa County, Ala. The strip averages about one-half mile in width and has been traced over a length of thirteen miles. The silica occurs here mostly as loose boulders, or in sharp or angular form, scattered over the surface, but at several points it is found outcrop-



## FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

### FINANCIAL CORPORATIONS

Ark., Bebec.—Citizens Bank is chartered, capital \$10,000. E. H. Abington, Pres.; J. R. Sloan, V.-P.; E. B. Beasley, Cash.

Ark., Leachville.—Leachville Bank of Leachville, capital \$10,000, is chartered; P. M. Nelson, Pres.; A. A. Clare, V.-P.; J. F. Roderick, Cash.

Ark., Leslie.—Citizens' Bank of Leslie is chartered; capital \$15,000; surplus \$1500. Sam G. Daniel, Pres.; A. T. Hudspeth, V.-P., and W. C. Leonard, Cash. The new bank takes over the First National Bank of Leslie.

Fla., Jacksonville.—Morris Plan Bank has begun business, capital \$50,000. Courts P. Kendall, Pres.; Ambrose C. Martin, Secy.-Treas.

Ky., Paducah.—Masonic Building Association, capital \$5000, is inceptd. by Fred. Cloen, D. D. Koger and Ewing P. Gilson.

La., New Orleans.—Reports state that the Commercial-Germania Bank will change its name back to the Commercial Trust and Savings Bank.

La., Vinton.—Masonic Building Association, Inc., capital \$10,000. S. J. Welsh, Pres.; A. H. Forman, V.-P.; M. J. Kaufman, Secy.-Treas. Business is to begin immediately.

Md., Baltimore.—Stockholders of the Citizens Co., Inc., have voted to change name to the Citizens' Security Co., Inc.; B. A. Brennan is Pres.

Md., Sparks.—A new State bank is reported being organized with Shadrack G. Sparks as Pres.

Mo. St. Louis.—Cosmopolitan Loan Co., capital \$15,000, organized by Morris Brownstein, Abe Krause, A. Fischler, Max Krause, Sam Hollander and others.

N. C., Charlotte.—Charlotte Morris Plan Bank, capital \$75,000, is chartered by Industrial & Finance Corp., which has its headquarters at 53 William St., New York City. H. C. Sherrill, F. H. White, W. A. Parsons and E. R. Smith.

Okla. Sulphur.—Farmers' National Bank chartered; capital \$50,000.

S. C., McCormick.—Peoples Bank is being organized by J. J. Dorn, J. T. Foose, Preston Findley and J. P. Abney.

Va., Hopewell.—Underwriters' Insurance Agency is organized with David A. Lyon, Pres.; Thomas J. Blankenship, Secy., and Berlin R. Leo Lemon, Treas.

Va., Williamsburg.—The Williamsburg Banking, Trust & Mortgage Co. is chartered; capital \$100,000. L. W. Lane, Jr., Pres.; W. F. H. Enos, V.-P.; S. L. Graham, Secy.

### NEW SECURITIES

Ala., Mobile.—(Telpher System).—Special dispatch to the Manufacturers Record says that \$55,000 of 5 per cent. Telpher system bonds are voted. Election is to be held later to vote on \$600,000 of bonds for Arlington docks. Harry Pillans is Mayor.

Ala., Selma.—(School).—\$40,000 of 1-25-year 4 or 5 per cent. bonds are voted. H. H. Stewart is City Clerk.

Ala., Talladega.—(Water-works).—Bids will be received until 2 P. M. July 10 by A. G. Weldon, City Clerk and Tax Collector, for \$35,000 of 5 per cent. 20-year bonds, dated July 1, 1917.

Ark., Eureka Springs.—(Road).—Special dispatch to the Manufacturers Record says that \$75,000 of bonds Road Dist. No. 1, Carroll County, have been purchased by Jas. Gould, Pine Bluff, Ark.

Ark., Jonesboro.—(Paving).—\$251,000 of 5 per cent. 20-year bonds have been purchased by Whittaker & Co., St. Louis.

Ark., Lonoke.—(Drainage).—Bids will be

received until noon July 2 by Board of Commrs. of Bayou Meto Drainage Dist. No. 1, Lonoke County, for \$370,000 of 5, 5½ and 6 per cent. bonds. M. L. F. Cox is Secy. Board of Commrs. Further particulars will be found in the advertising columns.

Ark., Pine Bluff.—(Road).—\$275,000 of 5 per cent. bonds have been purchased by James Gould, Pine Bluff, and the National Bank of Arkansas.

Fla., Bartow.—(School).—Election is to be held July 24 to vote on \$2500 of 6 per cent. 20-year \$500 denomination bonds Special Tax School Dist. No. 46, Polk County. W. L. Clifton is Secy. Board of Public Instruction, Polk County.

Fla., Bradentown.—(Bridge).—Election is to be held about August 1 to vote on \$45,000 bonds. Address The Mayor.

Fla., Fort Pierce.—(Road).—\$80,000 Fellers Road Dist., St. Lucie County, bonds are voted. Address County Commrs.

Fla., Hernando.—(Highway).—\$75,000 of Yazoo Delta Highway, De Soto County, bonds are voted and are to be offered for sale at once. Address County Commrs.

Fla., Jacksonville.—(Warrants).—On July 25 the Board of Public Instruction of Pasco County will issue \$30,000 of 6 per cent. coupon warrants to take up outstanding indebtedness of the Board of Public Instruction of Pasco County. J. W. Sanders is Secy. and County Supt., and L. J. Gaskins, Chmn.

Fla., Kissimmee.—(Road, Bridge).—\$100,000 of bonds Road Dist. Nos. 1 and 2, Polk County, are voted. Address County Commrs.

Fla., Miami.—(School).—\$15,000 of Biscayne Dist., Dade County, bonds have been purchased at \$15,431 by John Nuveen & Co., Chicago, and \$10,000 of Homestead Dist. at \$10,250 to Weil, Roth & Co., Cincinnati.

Fla., Palmetto.—(Bridge).—Election is to be held about August 1 to vote on \$15,000 bonds. Address The Mayor.

Fla., Panama City.—(Road).—\$375,000 of Bay County 5 per cent. bonds were sold at \$380,115. W. H. Marshall is Clerk and T. B. Young is Chmn. Board of County Commrs.

Fla., Tampa.—(School).—\$12,000 of special tax district, Hillsborough County, bonds have been purchased at par by the Hillsborough State Bank of Plant City.

Ga., Americus.—(Road).—Election is to be held in Sumter County to vote on \$100,000 of bonds. Address Board of Commrs. of Roads and Revenues of Sumter County.

Ga., Columbus.—(Sewer, Hospital, Fire Department).—Election is to be held Sept. 13 to vote on \$150,000 sewer, \$15,000 hospital and \$12,000 fire department bonds. Jno. C. Cook is Mayor.

Ga., St. Mary's.—(Bridge).—\$30,000 of Camden County bonds recently voted will be validated in about forty days and sold. H. P. Trimble is Clerk Board of Commrs. Roads and Revenue.

Ky., Ashland.—(School).—Bids will be received until 7 P. M. July 2 for \$100,000 of 5 per cent. \$500 denomination bonds, dated June 1, 1917, and maturing one-twentieth of the issue June 1, 1918, and one-twentieth each successive year thereafter until entire issue has been fully paid. Wm. Salisbury is Mayor and W. H. Clay, Treas.

Ky., Owensboro.—(Sewer).—\$25,000 bonds have been declared valid by the Court of Appeals. Address The Mayor.

Ky., Winchester.—(Water).—Bids will be received until 8 P. M. July 6 for \$180,000 of 5 per cent. 30-year bonds. S. B. Tracy is City Clerk.

La., Donaldsonville.—(Road).—Bids will be received until 11 A. M. July 11 by Leon Newman, Pres. Board of Dist. Suprs. (P. O., Geismar), for \$30,000 of 5 per cent bonds Road Dist. No. 2, Ascension Parish.

La., Kinder.—(Road, Bridge).—No sale was made June 19 of the \$75,000 of 5 per cent. bonds Allen Parish Road Dist. No. 2. Geo. M. King, Jr., is Secy. and Treas. of the District.

Miss., Biloxi.—(School).—Bonds are reported voted. Address School Board.

Miss., Fayette.—The \$12,000 of Jefferson County bonds, for which bids will be opened at noon July 2, are 30-year 5 per cent. Denomination \$100. M. C. Harper is County Treas.

Miss., Leland.—(Sewer).—\$40,000 of 6 per cent. bonds have been purchased at \$41,655 by John Nuveen & Co., Chicago.

Miss., Mendenhall.—(Highway).—Bids will be received until 2 P. M. July 2 for \$40,000 of 25-year bonds of Fifth Supervisors Dist., Simpson County, interest not exceeding 6 per cent. T. J. Peacock is Clerk.

Miss., Meridian.—(School).—Election is to be held June 29 to vote on \$10,000 of not exceeding 5 per cent. bonds, dated June 1, 1917, and maturing first bond of \$1000 June 1, 1920, and annually thereafter. Date for opening bids not yet decided. W. H. White is City Clerk and Treas.

Miss., Senatobia.—(School).—Notice is given that Board of Suprs. of Tate County proposes to issue not more than \$5000 of Woolfolk Consolidated School Dist. bonds. J. A. Wooten is Clerk of Board.

Miss., Vicksburg.—(Agricultural High School).—\$20,000 of 5 per cent. Warren County bonds have been purchased at 100.025 and interest by the Interstate Trust & Banking Co., New Orleans.

Miss., Walthall.—(Road).—Question of issuing \$50,000 Dist. No. 1 and \$4000 Dist. No. 2, Webster County, bonds is under consideration by Board of Suprs.

Mo., Charleston.—(Drainage).—\$208,000 of Big Lake Drainage Dist., Mississippi and Scott Counties, bonds have been purchased by Alden H. Little & Co., St. Louis.

Mo., St. Joseph.—(City Improvements).—Election ordered for June 26 to vote on \$500,000 of 4½ per cent. bonds was called off.

Mo., Springfield.—(Electric-light Plant).—Election ordered for June 16 to vote on \$500,000 of bonds was called off. A. E. Mace is City Clerk.

N. C., Asheville.—(Funding).—\$55,000 of 5 per cent. street-improvement funding bonds have been awarded at \$55,739 to Stern Bros. of Kansas City, Mo.

N. C., Biltmore.—(Street).—\$6000 of South Biltmore street-improvement bonds have been purchased by the French Bond Co. of Chicago.

N. C., Charlotte.—(Bridge).—\$100,000 of 5 per cent. \$1000 denomination bonds Mecklenburg County have been purchased at par, interest and \$250 premium by the Union National Bank, Charlotte.

N. C., Clinton.—(Road).—At auction at noon July 9 Sampson County will offer for sale \$25,000 of 5 per cent. 20-year bonds. For information address J. H. Packer, Register of Deeds, or Butler & Herring, Attys. for the Board. Further particulars will be found in the advertising columns.

N. C., Durham.—(Funding).—Special dispatch to the Manufacturers Record says that \$125,000 of 5 per cent. \$1000 denomination Durham County bonds maturing 1919 to 1936, inclusive, have been purchased at \$750 premium by Devitt Tremble & Co., Chicago.

N. C., Greensboro.—(School).—Fentress Township, Guilford County, has voted \$40,000 of bonds. Address School Board.

N. C., Greensboro.—(Refunding).—No satisfactory bids were received June 25 for \$75,000 of 5 per cent. bonds. W. L. Murray is City Clerk.

N. C., Louisburg.—(Road).—Bids will be received until 2 P. M. August 6 for the following 5 per cent. 20-year Franklin County bonds: Cedar Rock Township, \$5000; Dunn Township, \$30,000; Sandy Creek Township, \$25,000. John D. Alston is Chmn. and John B. Yarborough, Clerk.

N. C., Mt. Holly.—(Sidewalk).—Ordinance has been prepared providing for the issuing of \$10,000 of 6 per cent. 10-year bonds. W. T. Johnson is Clerk and Treas.

N. C., Nashville.—(School).—\$12,000 of 6 per cent. 20-year Castalia School Dist., Nash County, bonds are reported sold. Address School Board.

N. C., Nashville.—(Road).—\$10,000 of 6 per cent. bonds Jackson's Township Road Dist., Nash County, are reported sold. Address School Board.

N. C., Rich Square.—(School).—\$25,000 of bonds recently voted are 10-20-year 6 per cent. A. J. Conner is Chmn. Board of Trustees, Rich Square School Dist.

N. C., Rutherfordton.—(Road).—\$30,000 of Colfax and \$15,000 High Shoals Townships, Rutherford County, bonds are voted. J. D. Hull is Clerk Board of County Commrs.

N. C., Southport.—(Road).—\$12,000 Waccamaw Township, Brunswick County, bonds defeated.

N. C., Washington.—(Drainage).—\$400,000 of 6 per cent. \$500 and \$1000 denomination Drainage Dist. bonds, maturing \$40,000 June 15, 1920, and \$40,000 annually thereafter,

have been purchased at par and accrued interest by the Norfolk Southern Drainage Corp., 24 Broad St., New York.

Okla., Ada.—(Road, Bridge).—Election ordered for July 14 to vote on \$50,000 of Pontotoc County bonds has been called off.

Okla., Enid.—(Water-works).—Bids will be received at any time for \$50,000 of 5 per cent. 10-25-year water-works bonds. Address City Clerk.

Okla., Grandfield.—(School).—Plans are being made, it is reported, to hold an election to vote on \$25,000 of bonds. Address School Board.

Okla., Hominy.—(School).—Election is to be held in District No. 38 to vote on \$5000 bonds. Address School Board.

Okla., Jennings.—(Sewer).—Election will probably be held to vote on bonds. Address The Mayor.

Okla., Luther.—(School).—Election is to be held in Consolidated School Dist. No. 3 to vote on \$16,000 of bonds. Address School Board.

Okla., Mountain View.—(School).—Bonds are reported voted. Address School Board.

Okla., Commerce.—(Sewer, Water).—Bids will be opened July 7 for \$35,000 of sewer and \$5000 water extension 6 per cent. 10-25-year bonds, voted June 21. J. S. Denton is Mayor.

Okla., Okmulgee.—(Water-works, Sewers).—Election is soon to be called to vote on \$350,000 of bonds for improvements to the water and sanitary sewer systems. Address The Mayor.

Okla., Tulsa.—(Municipal Improvements).—Election is to be held July 11 to vote on \$272,500 utility bonds and \$70,000 non-utility bonds. Frank Newkirk is City Auditor. (Recently noted.)

Okla., Wilson.—(Water, Light).—Election was held June 23 to vote on \$25,000 water-works and \$10,000 electric-light bonds. Result not stated. Address The Mayor.

S. C., Chester.—(Road).—Special dispatch to the Manufacturers Record says that \$150,000 of Chester County bonds have been purchased at par and accrued interest by local banks. The bonds are 4½ per cent., dated Jan. 1, 1917, and maturing Jan. 1, 1918 to 1947, inclusive. R. S. Mebane, Robert Gage and H. S. Adams, Chester County Highway Commission.

Tenn., Chattanooga.—(School).—Steps are to be taken to sell \$400,000 of bonds authorized by Legislature. Address School Board.

Tenn., Columbia.—(Funding).—\$50,000 of 5 per cent. 20-year bonds have been purchased at par and interest by the Columbia Bank & Trust Co.

Tenn., Kingsport.—(School, Street, Fire Truck, Building, etc.).—\$150,000 of 5 per cent. \$500 denomination bonds dated 1917 and maturing \$6000 annually from 1922 to 1947 are voted. Bids for same will be opened July 3. Wm. R. Ponder is City Mgr.

Tenn., Knoxville.—(Fire, Police, Refunding).—Special dispatch to the Manufacturers Record says that \$100,000 of fire and police and \$35,000 of refunding bonds have been purchased at \$2068 premium by the Harris Trust & Savings Bank, Chicago.

Tenn., Sevierville.—(Road).—\$250,000 Sevier County bonds defeated.

Tex., Angleton.—(Road).—\$5000 of 5½ per cent. bonds Brazoria County Road Dist. No. 16 have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Archer City.—(Warrants).—Bids will be opened July 9 for \$60,000 of 6 per cent. 20-year \$500 denomination Archer County road and bridge warrants. J. S. Melugin is County Judge. Further particulars will be found in the advertising columns.

Tex., Austin.—Bonds approved by Attorney-General: \$30,000 of 5 per cent. 40-year bonds Dist. No. 11, road improvement, Milam County; \$15,000 of Kerr County Road Dist. No. 2; \$25,000 of 5 per cent. McKinney School.

Tex., Bartlett.—(City Hall, School).—No sale was made June 18 of \$3000 city hall and \$12,000 of school 5 per cent. 10-40-year bonds, dated July 1, 1917. J. V. Morris is City Atty.

Tex., Beaumont.—(Park).—Election is to be held August 7 to vote on \$100,000 of bonds. Address The Mayor.

Tex., Bryan.—(School).—Petition is being circulated asking the city commissioners to call an election to vote on \$100,000 of bonds. Address School Board.

Capital and Surplus  
\$4,000,000



Total Resources  
\$38,000,000

## The Largest National Bank in the South

Liberal Accommodations to Manufacturing Corporations

**MERCHANTS-MECHANICS  
FIRST NATIONAL BANK  
OF BALTIMORE**

### The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.  
Capital \$1,500,000.  
March 30, 1915, Surplus and Profits,  
\$550,000.00.

OFFICERS:  
WALDO NEWCOMER, President.  
SUMMERFIELD BALDWIN, Vice-Pres.  
R. VINTON LANSDALE, Cashier.  
C. G. MORGAN, Asst. Cashier.  
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

### Maryland Trust Company

BALTIMORE

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Tex., Dallas—(School).—Election is to be held July 14 to vote on \$20,000 of bonds common school district No. 69, Dallas County. Quentin D. Corley is County Judge.

Tex., Graham—(Sewerage, Disposal Plant). Bids will be received until 2 P. M. July 2 by E. S. Graham, Mayor, for \$25,000 of 5 per cent. 10-40-year \$500 denomination bonds for sewerage and disposal plant.

Tex., Houston Heights—(Street).—Election is to be held July 28 to vote on \$150,000 of street-paving and improvement bonds. Address The Mayor.

Tex., Linden—(Highway).—\$40,000 of Cass County bonds are voted. Address County Commrs.

Tex., Pharr—(Warrants).—\$17,500 of 6 per cent. city hall and water-works warrants, dated Feb. 9, 1917, and maturing serially 1920 to 1952, inclusive, have been purchased by J. L. Arlitt, Austin, Tex.

Tex., Seymour—(School).—\$24,000 of bonds are voted. Address School Board.

Tex., Sherman—(School).—Bids will be received until 2 P. M. July 2 by W. G. Banks, City Clerk, for \$30,000 of 5 per cent. \$1000 denomination bonds, dated July 1, 1917, and maturing July 1, 1918 to 1947, inclusive.

Tex., Vega—(Road).—Bids will be received until 9 A. M. July 16 for \$60,000 of 5 per cent. 40-year \$1000 denomination Oldham County special road bonds, dated March 27, 1917. Address Board of County Commrs. W. A. Pulliam is County and Dist. Clerk. Further particulars will be found in the advertising columns.

Tex., Waco—(School).—\$12,000 China

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Spring Dist., McLennan County, bonds are voted. Address School Board.

Tex., Wichita Falls—(Bridge).—\$20,000 of bonds defeated.

Tex., Wichita Falls—(Road).—Bids will be received until 9 A. M. July 10 by H. Harris, Judge of Wichita County, for \$750,000 of 5 per cent. bonds. (Recently noted.)

Va., Farmville—(Improvement).—Bids will be received until noon July 11 for \$30,000, or may sell the whole issue of \$50,000, of 5 per cent. 20 year bonds. H. E. Barrow is Chrmn. Finance Committee. Further particulars will be found in the advertising columns.

Va., Hillsville—(Road).—Election ordered for Aug. 23 to vote on \$300,000 Carroll County 5 per cent. bonds postponed indefinitely. Address W. D. Tompkins.

#### FINANCIAL NOTES

The Virginia Bankers Association, which held its annual convention last week at Old

Point Comfort, elected officers for the ensuing year as follows: Prest., W. Meade Addison of Richmond; Vice-Prest., G. E. Vaughan of Lynchburg; Treas., W. P. Augustine of Richmond; Secy., V. Vaiden of Farmville.

The North Carolina Bankers Association, which held its annual convention at Wrightsville Beach last week, elected officers as follows: Prest., W. B. Drake, Jr. of Raleigh; Vice-Prests., First, James A. Gray, Jr. of Winston-Salem; Second, J. B. Ramsey of Rocky Mount; Third, Erwin Sinder of Asheville; Secy.-Treas., W. A. Hunt of Henderson.

The North Carolina Building & Loan League at its annual convention at Wrightsville Beach last week elected officers thus: Prest., E. L. Kessler of Charlotte; Vice-Prests., First, W. E. Sharpe of Burlington; Second, G. R. Wooten of Hickory; Third, J. B. James of Greenville; Secy. and Treas., A. G. Craig of Charlotte.

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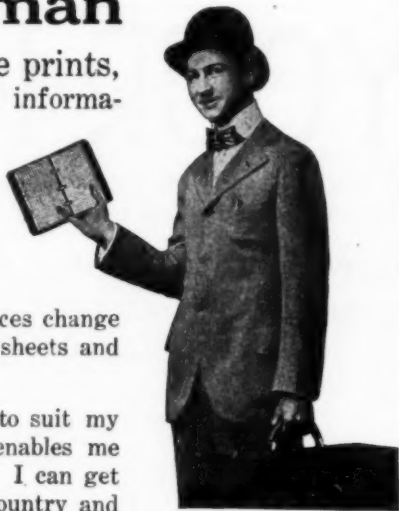
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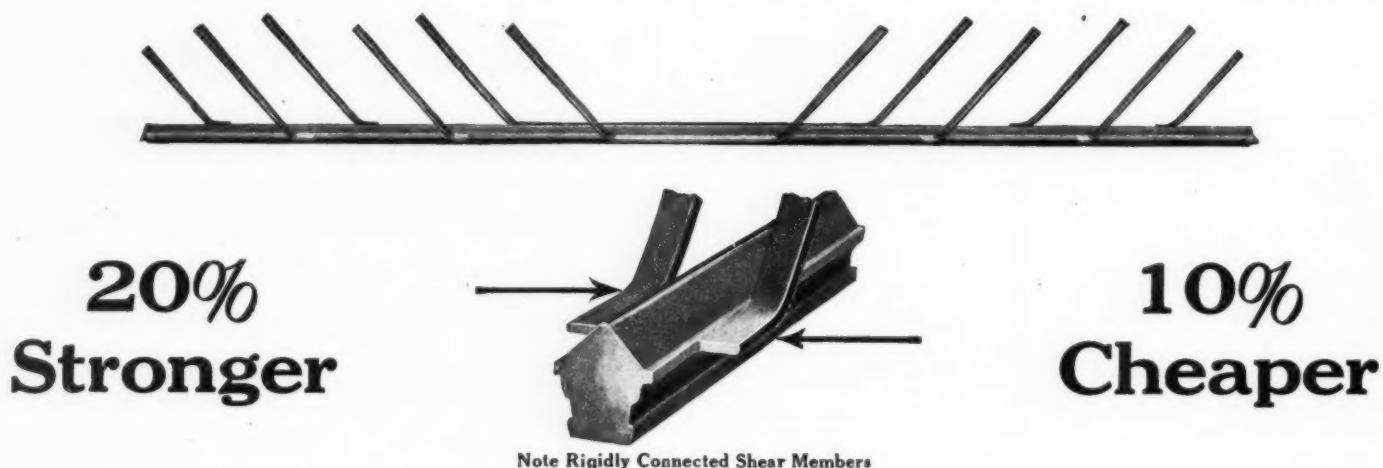
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**Kahn Trussed Bars save labor** of installing many loose separate bars, because shear members and main bar are handled as one piece.

**Kahn Trussed Bars safeguard the structure** because the rigidly connected shear members make its strength independent of the adhesion of the concrete. Loose stirrup designs depend upon this adhesion, which may be destroyed by fire, shock or careless workmanship.

**Kahn Trussed Bars make beams 12% to 30% stronger** than where loose stirrups are used, as proven by University tests.

The web members of **Kahn Trussed Bars** are inclined at 45 degrees at right angles to the plane of weakness in the beam and present a flat surface to the compression stresses, which grip them like a vise.



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8x12-inch timber destroyed by decay after nine years' service in paper-mill.



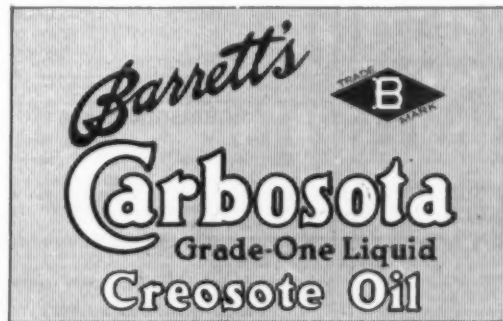
Open-Tank Creosoting-Plant. Note the steam supply pipes in the foreground and the steam-pipes in bottom of tank arranged in two coils of three lengths each; also the overhead two-ton chain-block and traveling-hoist.

## "Fungous Growths Destroy Many Wooden Roofs"

**"New England Structures Suffer Heavy Damage from Dry-Rot"**

The above quotation is the caption of an article which appeared in the **American Lumberman**, issue of January 6, 1917, describing in detail the large loss, due to decay, of roof-boards and timbers in cotton- and paper-mills.

Creosoting such material properly will prevent this loss and probably more than double the life of roofs so exposed. This may be done by the Open-Tank system of treatment, which is economical and adaptable to nearly all conditions.



Creosoted wood **does not increase** the fire-hazard. When thoroughly seasoned after treatment it will not ignite more readily than untreated wood, and in fact treatment with creosote tends to retard combustion.

Lumber creosoted by the Open-Tank system with a proper grade of refined coal-tar creosote oil will not bleed or exude oil when exposed to the high temperatures prevalent in machine-rooms of paper-mills and weave-sheds of cotton-mills. " \* \* \* a heavy plank roof is the ideal covering for a cotton-weave shed, provided that it won't rot." (Quoted from article mentioned).

**It Won't Rot if Properly Creosoted.**

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**TIMBER LAND FOR SALE**—I own and offer for sale 4200 acres of timber land; oak, 13,000,000 feet; gum, 2,500,000 feet, and hickory, 1,500,000 feet. Four and a half miles from railroad. All high land; no overflow; rich soil. Will cut one-half million ties. Gustave Jones, Newport, Ark.

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**TIMBER BARGAIN**—50,000,000 ft. original growth, 60% N. C. pine, 8% cypress, 8% poplar, balance red gum, etc., on Southern Rwy. in South Carolina. Large amount of additional, contiguous, similar stumpage can be bought cheap. For particulars write J. P. Mulherin, Augusta, Ga.

**FOR SALE**—About three hundred and seventy-five million feet of the highest grade and quality of virgin long-leaf yellow pine. For particulars address H. H. Wefel, Jr., Mobile, Alabama.

**15 MILLION FEET** fine ship timber in Eastern Virginia; about half yellow pine, balance oak and hickory, all virgin growth. Green & Redd, Richmond, Va.

### FARM AND TIMBER LANDS

**WE OWN LARGE TRACTS OF TIMBER LANDS**, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

### STOCK FARMS

**FOR SALE**—Ten thousand acres especially well adapted for a ranch, located South Alabama. If buyer stocks ranch, would require no payment for three or four years. Address H. H. Wefel, Jr., Owner, Mobile, Ala.

### FARM AND GRAZING LANDS

**WE HAVE FOR SALE** 328 farms in Piedmont Virginia and Northern Maryland, ranging in price from \$1000 to \$1000,000, many of which are in a high state of cultivation, for general farming, grazing, orcharding and dairying. W. W. Briggs & Son, Orange, Va.

### COUNTRY HOME

**FOR SALE OR EXCHANGE.** Magnificent modern country home, 10 acres, 15 rooms, gas, electricity, sewerage, fine water supply, 3 bathrooms, hot-water heat, servants' quarters, individual phones, garage, stable, barn, chicken-houses, in first-class condition. Garden, asparagus, strawberry beds, young orchard, all fruits, flower beds, beautiful shade. Overlooking Washington, 30 minutes U. S. Treasury by electric cars, 18 minutes auto, 10 minutes steam road. Price \$30,000; terms if desired. O. B. Zantlinger, Washington, D. C.

## FRUIT, FARM AND TRUCK LANDS

**THESE COLUMNS ARE CLOSELY READ BY PEOPLE** for information of all kinds about Southern properties of every description. If you have a property of any kind that you want to dispose of, try an advertisement in these columns. Others have to their advantage. For rates see head of department.

### FLORIDA

**FREE, "THE WINTER GARDEN OF AMERICA"** to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida, write Indian River Farms Company, Suite O, 609 Putnam Bldg., Davenport, Iowa.

### FLORIDA

**SUWANNEE COUNTY, FLA., FARM**, 125 acres; 50 in cultivation; splendid new hog-proof wire fence; finest hog range in the county; two big springs on property; 10-room house, 3 chimneys, 6 fireplaces; big barn and outhouses; 65 pecan trees, bearing; nuts will pay interest; splendid well water and two cisterns; on main thoroughfare, being hard-surfaced; 5 miles of good town; ¼ mile of Suwannee River; splendid neighbors, church, school and general store; 8 head registered sows; 2 Jersey heifers. All for \$4750; \$1750 cash, balance 1, 2 and 3 years at 8 per cent.; also 1000 acres on Suwannee River, 1 mile from above property, at \$6.50 per acre; splendid farming land. Roberts Bros., Tampa, Fla.

**FOR SALE**—12,000 acres in famous St. Johns County, Florida, potato district; well located, at very attractive price. Address P. F. Quinn, Vinton, Iowa.

**FOR A SAFE and permanent investment**, Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeyer, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

**ONE-HALF MILE FROM BRICK ROAD**, four miles from city limits, a 7-acre farm; 400 budded orange and grapefruit trees, 50 budded peach trees, corn crop, peas and melons; two wells good water; pony horse, wagon and harness; one Jersey heifer, chickens, ducks, guineas; all for \$2250; \$750 cash, balance 1, 2 and 3 years. Roberts Bros., Oak and Nebraska Ave., Tampa, Fla.

### GEORGIA

**INVEST FOR PROFIT IN LINCOLN COUNTY, GEORGIA.** 3000 acres fertile river land. Fair improvements, near good markets. Excellent for cattle raising. Three valuable power sites located on same. Can be subdivided to advantage. Will sell as a whole or in tracts to suit purchaser. For quick sale at \$11.50 per acre. Correspondence solicited. Lincoln Realty Company, Lincoln, Georgia.

### LOUISIANA

**LOUISIANA IN THE "SUNNY SOUTH."** No extremes of heat or cold. Lands cheap. Opportunity beckons. Write Farm Lands Department Steere Home Construction Co., Shreveport, Louisiana.

### MARYLAND

**FOR SALE**—Water-front farm containing 127 acres; one-half in timber and one-half in cultivation. Improved by colonial brick house in excellent condition. Sandy shore, fine for bathing; near Salisbury. For quick sale it can be bought for \$5000; easy terms. For full particulars address S. P. Woodcock & Co., Salisbury, Maryland.

### MICHIGAN

**GRAND TRAVERSE BAY**—Have the finest summer resort lands, fruit farms and big acreage in Grand Traverse County. On the West Michigan-Dixie Highway. Henry Ford has bought in this section for a beautiful summer home and game reserve. Why not you? Property fast taking up by wealthy Pennsylvanians and Southerners. For this, address Edward Smith, 572 Penobscot Bldg., Detroit, Michigan.

### TEXAS

**282 ACRES**, 10 miles from a Southern city of 25,000 population, located on interurban. Dependable transportation facilities. Good shell roads. This tract was purchased for a modern high-class dairy farm by men who are expert in the business, but because of the existing war conditions the original plans will not be consummated. This is a grand opportunity. Ideal soil, equable climate, best market in the world. \$5000 cash will swing the deal. Closest investigation invited. Original plans of operation accessible to purchaser. Owner, 221 First National Bank, Houston, Tex.

**FOR SALE**—1529 acres farm and ranch land; on Trinity River, Houston County, Texas. 800 acres in cultivation; fine crops growing; balance in pasture, with good grass and running water; soil rich, black waxy and dark loam. Abundance hardwood timber. Price \$30 per acre. Machinery and stock at a bargain. To divide community interest reason for selling. Terms easy and to suit. J. M. Travis, Jacksonville, Texas.

**800 ACRES**, 15 miles south of San Antonio; all under fence; sandy soil; fine well of water; pump; a dandy combination stock and farm proposition. Only an hour's drive. Good auto road all the way. Going at \$15 per acre; part cash, balance easy terms. Lecomte Realty Co. (owners), Box 100, San Antonio, Tex.

### VIRGINIA

**SHENANDOAH VALLEY OF VIRGINIA.** Where Blue Grass and Alfalfa Grow. In the heart of the Apple Belt. Delightful climate. Fertile Soil. Write John M. Londree, Staunton, Va.



# Classified Opportunities

## FRUIT, FARM AND TRUCK LANDS

### VIRGINIA

**VIRGINIA MODERN COUNTRY HOME** in Piedmont section: 165 acres. \$15,000. Actual cost \$20,000. Must sell quick. May consider part trade in city property. Address No. 406, care Manufacturers Record.

**2000 ACRES** of fine tobacco and grain land, on improved highway, in Lunenburg Co., Va. Railway runs through this property, with siding on this property. E. M. Terry (owner), South Boston, Va.

## INCORPORATING COMPANIES

### DELAWARE CHARTERS.

Stock Without Par Value. Directors Need Not Be Stockholders. Other important amendments (March 20, 1917). Write for new DIGEST (4th ed.).

**CORPORATION COMPANY OF DELAWARE** Equitable Building, Wilmington, Delaware.

## ATTORNEYS

### RAYMOND M. HUDSON,

Attorney, Washington, D. C. Practice before U. S. Supreme Court, U. S. Court of Claims, D. C. Court of Appeals, D. C. Supreme Court, Va. and Md. Courts, Executive Departments, Congressional Committees, Federal Reserve Board, Federal Trade Commission, Interstate Commerce Commission, Cable "Rayhud."

## BOATS

**SCHOONER FOR SALE**—Ready for service. Length 55 feet; register 14 tons. Offered at bargain price. Write E. B. Stevens, Southport, N. C.

## BUSINESS OPPORTUNITIES

**FOR SALE**—A bleaching and absorbent cotton manufactory, offered on account of lack of capital. This is a splendid paying proposition and offered at a low price for quick sale. On account of war conditions, good demand for product. Address 3092, care Manufacturers Record, Balto., Md.

**TO LOVERS OF DUCK SHOOTING.** Splendid clubhouse and grounds, and all equipment, boats, etc., ready for hunting on Back Bay, Virginia. Ex-President's favorite hunting grounds. Price for the outfit \$4000. For full particulars address Powell Trust Co., Real Estate Agents, Newport News, Va.

**AN UNUSUAL** good opportunity for feed mill, velvet-bean mill or peanut mill; boilers, engine, large brick warehouse, sidetrack and site for sale cheap; big acreage planted to velvet beans and peanuts. J. L. Bedsole, Thomasville, Alabama.

**WANTED**—Partner with from six to eight thousand to invest with like amount in a lucrative manufacturing business. For particulars address Box 304, Anniston, Ala.

**FOR SALE**—A well-established and profitable hardware business in the best agricultural county in Kentucky. The present owners desire to retire from business. An excellent opportunity is open to the right man. Address C. C. Thomas, Secretary Chamber of Commerce, Richmond, Ky.

**WANTED CAPITAL**—Alabama Lime Products Company wants to borrow twelve thousand dollars with which to increase capacity now demanded. Secured by mortgage on the plant. Only lime products plant in North Alabama. It is in perfect order, new and worth thirty thousand dollars. Fronts on the Southern Railway. Ample switch and railroad arrangements and connections. Security ample, and every respect sure and safe. Highest references. Alabama Lime-Stone Products Company, Box A, Paint Rock, Ala.

**FOR SALE**—To settle an estate, well established retail lumber business in large town in South Carolina. Has made good profits and will show them to interested party. Has machinery for manufacturing sash, doors, blinds and millwork. No competition; a good proposition. Address No. 4002, care Manufacturers Record, Balto., Md.

**AN OPPORTUNITY FOR A FOUNDRY.** Cast-iron culvert business with patterns and patent for sale or given out for a royalty. Traub & Helfrecht, Germania, Pa.

**DOUBLE BAND MILL** in North Carolina. Up-to-date equipment. Ample standing timber behind it. Making money. Good reason for selling. Green & Redd, Richmond, Va.

**STORE BUILDING** on main street of town for sale. Store is of brick construction, 100 feet square, with a basement the same size, and a vacant lot on the rear of one-half of it 50x100 feet. This store is about 10 years old and in first-class condition. A wall separates the building, making the rooms 50x100 feet. For further information address Gunterville Hardware Co., Gunterville, Ala.

## BUSINESS OPPORTUNITIES

### TO FAR-SIGHTED MANUFACTURERS AND JOBBERS.

Next to New York City, Norfolk, Virginia, is probably the most advantageously located city in the United States for the storage and distribution of all classes of goods.

Firms and corporations securing their own warehouses for storage purposes in Norfolk, Virginia, without delay—thus enabling them to carry at said point reserve stocks—will certainly be in a very strong position to meet the unprecedented demand that will surely develop throughout the great Hampton Roads section (especially during the war period) for general supplies.

The undersigned invites correspondence regarding three of the very best storage warehouse sites, with superior transportation facilities obtainable, in Norfolk, Virginia. Areas, respectively, 33,000, 170,000 and 196,000 square feet.

These properties may, just at this time, be acquired at prices that will insure minimum storage rates. For particulars address "Owner," P. O. Box 722, Norfolk, Va.

**WANTED**—Slate operators. We have several quarries to lease on our 5000 acres. Will contract to take the output. The Southern Slate Co., Wildham, East Tennessee.

**WANTED**—To exchange high-class apartment-house in New York with annual rentals over \$30,000 for unencumbered agricultural or timber lands in South, preferably Florida. Address, giving full particulars, P. O. Box 239, Clearwater, Fla.

## BOXES AND CASES

**WE ARE** prepared to enter into contract with responsible parties to supply them on future delivery orders for pine or oak boxes, K. D. or completed in car lots or less. If special, send sample case and state best price willing to pay for o. h. cars Milledgeville, Ga. Fowler Mfg. Co., Milledgeville, Ga.

## BUILDINGS—STEEL PORTABLE

**"PRUDENTIAL" STEEL BUILDINGS** for all purposes; portable one-story construction; workshops, toolhouses, storage, garages, bunkhouses, etc. Write for Catalog A. C. D. Pruden Company, Baltimore, Md.

## PATENT ATTORNEYS

Patents secured or fee returned. Actual search and report free. Send sketch or model. 1917 Edition, 90-page patent book free. Personal and prompt service. My patent sales service gets full value for my clients. George P. Klimmel, 288 Barrister Bldg., Washington, D. C.

**PATENTS**—Write for how to obtain a patent, list of patent buyers, and inventions wanted. \$1,000,000 in prizes offered for inventions. Send sketch for free opinion as to patentability. Our four books sent free upon request. Patents advertised free. We assist inventors to sell their inventions. Victor J. Evans Co., Patent Attorneys, 712 Ninth St., Washington, D. C.

## HIGH-VALUE PATENTS

Patents that fully protect. Patents that Pay Largest Financial Returns are the kind we obtain. References, SUCCESSFUL INVENTORS and WELL-KNOWN MANUFACTURERS. Send 8 cents for new book of extraordinary interest and value to inventors. R. S. & A. B. Lacey, 83 Barrister Building, Washington, D. C. Established 1899.

**EUGENE C. BROWN, ENGINEER AND PATENT LAWYER**, 734 Eighth St. N. W., Washington, D. C. Graduate Engineer, Lehigh University; Member Bar U. S. Supreme Court; Former Examiner U. S. Patent Office. **PATENTS AND TRADEMARKS.** Inventions considered from engineering and legal standpoint. Infringements and extent of patent monopoly investigated for manufacturers. Glad to answer any inquiries.

**INVENTIONS—PATENTING AND PROMOTING**—A book containing practical advice and directions for inventors and manufacturers. Book, suggestions and advice free. Lancaster & Allwine, Registered Attorneys, 265 Ouray Bldg., Washington, D. C.

**PATENTS—TRADEMARKS**—Highest professional service. I personally examine the Patent Office records in regard to and personally prepare and prosecute every application filed through my office. Highest references. Booklet, "The Truth About Patents," and honest advice free. J. R. Kelly, Patent Attorney, 750 Woodward Bldg., Washington, D. C.

## PATENTS THAT PROTECT AND PAY.

Advice and books free. Highest references. Best results. Promptness assured. Trade-Marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

## PATENT ATTORNEYS

**POSTAL** will bring free booklet telling all about patents and their cost. Shepherd & Campbell, Patent and Trade-Mark Attorneys, 732 8th St., Washington, D. C.

**PATENT YOUR IDEAS**—\$9000 offered for certain inventions; book, "How to Obtain a Patent," and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, Patent Attorneys, 978 F St., Washington, D. C.

## PATENTS AND TRADEMARKS

Procured by a former Examining Official of the U. S. Patent Office. **NORMAN T. WHITAKER**, Attorney-at-Law, Mechanical Engineer, 31 Legal Bldg., Washington, D. C. (Opposite Patent Office.) Inquiries invited.

## INDUSTRIES WANTED

### FLOUR AND CORN MILL

**WANTED**—FLOUR AND CORN MILL for the town of Crewe. Parties interested write Chamber of Commerce, Crewe, Va.

## SHIPBUILDING SITES

### SHIPBUILDING SITES.

**FERNANDINA, FLORIDA.** We invite prospective shipbuilders to investigate opportunities offered here. Chamber of Commerce, Fernandina, Fla.

### SHIPBUILDING SITE

**AT SOUTH ATLANTIC PORT.** Any shipbuilder contemplating the building of wooden ships will do well to investigate this site, which is situated near the source of supply of oak and pine timber, and is near the mouth of one of the largest rivers on the South Atlantic Coast, twelve miles from the sea. There is a 15,000-capacity sawmill now on the property. No shipbuilding plant here at present. Postoffice Box 68, Darien, Ga.

## FACTORY SITES

**BALTIMORE FACTORY AND TERMINAL SITES**—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements.

**"OUR MOTTO":** **FACTORY AND TERMINAL SITES IN BALTIMORE.** Wm. Martien & Co., Ninth Floor, Lexington St. Bldg., Balto., Md.

## INDUSTRIAL PLANTS FOR SALE

### PRINTING PLANT

**FOR SALE**—In part or as a whole, a well established, modern printing plant (incorporated). Price right and easy terms if desired. P. O. Box 74, Chattanooga, Tenn.

### FLOUR MILL, GRIST MILL AND GINNERY

**VALUABLE** property for sale at Sandersville, Ga. One flour mill, grist mill and ginnery complete, all run by one engine; located in best grain and cotton section in Georgia. Will sell cheap and allow liberal terms. Jas. E. Johnson, Cashier.

### GAS PLANT

**GAS PLANT FOR SALE**—One producer gas plant complete, 100 H. P., Rathburn-Jones engine, Smith producer. Also 100 H. P. distillate and 150 H. P. distillate engines. Immediate delivery. A. H. Cox & Co., Inc., 309 First Ave., Seattle, Wash.

### BAKERY

**FOR SALE OR LEASE**—Baking plant at Hopewell, Virginia; manufacturing town 40,000 near selected site, military cantonment for 40,000 troops; new building, modern oven and equipment; cash sales \$1500 to \$2000 weekly. C. R. Ross Realty Company, Inc., 240 Fair Street, Kingston, N. Y.

## BRANCH OFFICE SERVICE

**GOVERNMENT**, expending \$3,000,000,000, requires almost everything. Get your share. Be represented here. Our attorneys practice before the Supreme Court and all Inferior Courts and Government Departments. Expert attention to Government bidders and contractors everywhere. Inquire now. U. S. Legal Corporation, Washington, D. C.

## EMPLOYMENT AGENCIES

**WE FURNISH** laborers, any amount, to industries. Also high-grade technical, executive and clerical help. Orders are filled promptly. We also supply hotel help. Write or wire us. 20th Century Employment Agency, 642 6th Ave., New York City.

## MEN WANTED

**IF ACTUALLY QUALIFIED** for salary between \$2500 and \$3500, communicate with undersigned, who will negotiate strictly confidential preliminaries for such positions; executive, administrative, technical, professional; all lines. Not an employment agency; undersigned acts in direct confidential capacity, not jeopardizing present connections. Established 1910. Send name and address only for explanatory details. R. W. Bixby, El Niagara Square, Buffalo, N. Y.

**WANTED**—Men to build paying business of their own on guaranteed boiler preservative. Fireman or engineer could start spare time; salesman, as a side line. Give age, experience, references; confidential. Address Room 1419 Fisher Bldg., Chicago, Ill.

## SITUATIONS WANTED

**COMPETENT** male bookkeeper-stenographer desires position with a future; 15 years' experience manufacturing, banking and other lines; age 30; married; no intoxicants or tobacco; now employed; object of change, better position. Address Accountant, Box 298, Greenville, S. C.

**WANTED**—Position as construction superintendent. Thoroughly experienced in all lines of building construction. Capable of taking off quantities, estimating cost, etc. Best of references. Personal interview given with prospective employer. Address T. J. Duffey, Industrial, W. Va.

**POSITION WANTED**—Three years' experience railroad location and construction; resigned to accept position as time-keeper and assistant superintendent \$3,500.00 project, just completed. Address No. 4011, care Manufacturers Record, Balto., Md.

**SALESMAN**, 32, capable, energetic and ambitious, 9 years' successful sales record, well acquainted with hardware and mill-supply trade from Maine to Florida. Best credentials regarding ability and character. Desires to connect with reliable house on or before July 15. Address No. 4010, care Manufacturers Record.

## OFFICE EQUIPMENT

### BARGAINS.

Adding machines, calculating machines, duplicating machines, rotary mimeographs, addressing machines, check writers, envelope sorters, etc. All makes, new, used and rebuilt. Every machine guaranteed in perfect mechanical order. Collins & Co., 1324 Arch St., Philadelphia, Pa.

## MACHINERY AND SUPPLIES

**FOR SALE**—Sawmill machinery and power with accessories. 40 H. P. fire box boiler, 35 H. P. C. C. engine circular saw rig with log turner, planer and matcher. O. J. Helfrecht, Water-Well Driller and Sawmill Operator, Germania, Pa.

**FOR SALE**—Two Boomer & Roschert hydraulic veneer presses, both six cylinders; one 300-ton, the other 450-ton pressure. Platen of each press 8' 6"x14', practically new. No pumps. One 102' 3-roll sand, fine condition. Address No. 4012, care Manufacturers Record, Balto., Md.

**FOR SALE**—Second hand Berlin No. 177 Double Surfer, 30"x12", good condition. Williamson Sash & Door Co., Macon, Ga.

**FOR SALE**—Knife grinder, hand saw, disc sanders, and drum. Oettinger Lumber Co., Greensboro, N. C.

**FOR SALE**—One 2x48 Cooper Corliss engine, cylinder rebored, new head, rings and rod, valves reworked, thoroughly overhauled; A-1 condition, guaranteed. A bargain. By Mecklenburg Iron Works, Charlotte, N. C.

**FOR SALE**—One No. 5 Champion rock crusher, in good condition. One portable 35 H. P. boiler and 30 H. P. engine, in good condition. Will sell at bargain. Johnston, Porter & Peck, Greenville, S. C.

## MACHINERY and SUPPLIES WANTED

**WANTED**—Prices on second-hand six or eight-foot Hardinge mill and cypress tank twenty-two feet in diameter, also the smaller machines necessary for installation of 100-ton flotation unit. Address Mill, Box 374, Salisbury, N. C.

# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

Bids close July 12, 1917.

**PROPOSALS FOR WROUGHT-IRON**  
Fence and Gates, Galvanized Steel, Planished Iron, Strap Iron, Stovepipe, Horseshoes, Track Bolts, Boat Spikes, Nails, Cable Clips, Track Chisels, Bronze, Copper, Brass, Brass and Copper Tubing, Bearing Metal, Babbit Metal, Sheet Tin, Plate Zinc, Solder, Link Fuses, Fusable Plugs, Picks, Shovels, Crucibles, Rubber Tires, Water-closet, Manila Rope, Oakum, and Fire Brick. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. July 12, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (No. 1152) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; Audubon Building, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. EARL I. BROWN, Lieut.-Col., Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close August 20, 1917.

**PROPOSALS FOR THE PURCHASE OF**  
One Pipe Line Section Dredge, offered for sale by The Panama Canal. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M. August 20, 1917, at which time they will be opened in public, for purchasing the above-mentioned dredge. Blanks and information relating to this Circular (No. 1151) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; Audubon Building, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. EARL I. BROWN, Lieut.-Col., Corps of Engineers, U. S. A., General Purchasing Officer.

Bids close July 26, 1917.

**REASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 14, 1917. Sealed proposals will be opened in this office at 3 P. M. July 26, 1917, for the construction of the United States postoffice at Gallatin, Tenn. Drawings and specifications may be obtained from the custodian of the site at Gallatin, Tenn., or at this office, in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 6, 1917.

**TREASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 6, 1917. Sealed proposals will be opened in this office at 3 P. M. July 6, 1917, for a new boiler, etc., in the United States postoffice at Columbia, Mo., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the custodian, Columbia, Mo., in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 27, 1917.

**TREASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 15, 1917. Sealed proposals will be opened in this office at 3 P. M. July 27, 1917, for the construction complete of the United States postoffice at Vernon, Tex. Drawings and specifications may be obtained from the custodian of site at Vernon, Tex., or at this office, in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 9, 1917.

**TREASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 18, 1917. Sealed proposals will be opened in this office at 3 P. M. July 9, 1917, for a new heating system, repairs to plumbing, etc., United States Courthouse and Postoffice at Statesville, N. C., in accordance with the drawings and specifications, copies of which may be had at this office or at the office of the Custodian, Statesville, N. C., in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 19, 1917.

**TREASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 21, 1917. Sealed proposals will be opened in this office at 3 P. M. July 19, 1917, for Heating Changes in the United States Postoffice at South Bend, Indiana, in accordance with the specifications and drawings, copies of which may be had at this office or at the office of the custodian, South Bend, Indiana, in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 5, 1917.

**TREASURY DEPARTMENT, Supervising**  
Architect's Office, Washington, D. C., June 11, 1917. Sealed proposals will be opened in this office at 3 P. M. July 5, 1917, for mechanical stokers, etc., in the United States custom house and postoffice at Cincinnati, Ohio, in accordance with specification, copies of which may be had at this office or at the office of the custodian, Cincinnati, Ohio, in the discretion of the Supervising Architect, JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 9, 1917.

## \$175,000 5% Bonds

Notice is hereby given that on Monday, July 9, 1917, at the Courthouse door in Madisonville, Tennessee, there will be offered for sale, for cash in hand, the following bonds, to wit:

\$175,000 Monroe County Road Improvement Bonds, bearing interest at the rate of 5% (five per centum), interest payable semi-annually on the 8th day of July and the 8th day of January of each year, and the place of payment of principal and interest will be arranged to suit the convenience of the purchaser. Said bonds will mature as follows:

\$58,000 July 8, 1941.  
\$58,000 July 8, 1946.  
\$59,000 July 8, 1951.

Said bonds have been heretofore sold to the firm of Stacy & Braun of Toledo, Ohio, and they having failed to comply with the terms of their bid, the bonds will be resold at their risk and expense.

Sealed bids will be received and opened on July 9, 1917, and if not satisfactory the officers directing the sale of said bonds will place same up for sale at public auction, where they will be sold to the highest and best bidder for cash in hand. The officers directing the sale reserve the right to reject any and all bids.

Each bid shall be accompanied by a certified check for 1 per centum of the amount of the bid.

Further information can be obtained by writing Joe J. Howard, Chairman, Madisonville, Tennessee, or Jno. B. Pennington, Clerk, Madisonville, Tennessee.

This June 8, 1917. JOE J. HOWARD, Chairman Monroe County Court.

JNO. B. PENNINGTON, County Court Clerk, Monroe County, Tenn.

Bids close July 30, 1917.

## \$250,000 Road Bonds

By virtue of the authority of an Act of the General Assembly of the State of South Carolina, approved by the Governor on the 1st day of March, 1917, for the purpose of road improvement, we hereby offer for sale Two Hundred and Fifty Thousand (\$250,000) Dollars of coupon bonds of Pickens County, said State, to mature twenty years after date and bearing interest from date at not exceeding 5 per cent. per annum, to be paid semi-annually at such place as may be agreed upon.

Bonds to be dated 2d day of July, 1917. Right reserved to reject any and all bids. Bids will be received up to noon July 30, 1917. Bidders required to deposit certified check of \$5000 as an act of good faith.

The County has no bonded or outstanding indebtedness.

C. L. CURETON, Chairman, Pickens, S. C.;  
R. F. LENHARDT, Eastley, S. C.;  
J. F. BANISTER, Liberty, S. C.;  
Highway Commission, Pickens County, S. C.

Bids close July 9, 1917.

## \$60,000 6% Warrants

Archer County offers for sale \$60,000 6 per cent. interest-bearing Road and Bridge Warrants, denomination \$500, due one to twenty years, interest payable semi-annually, warrant to bear interest from date of delivery. Taxable value, \$7,000,000. Bonded debt, \$7,000. No floating debt. Bidder to furnish court orders and print warrants. Each bid to be accompanied by a certified check for \$500. Date of sale, July 9, 1917. The Court reserves the right to reject any and all bids.

J. S. MELUGIN, County Judge Archer County, Archer City, Texas.

Bids close July 16, 1917.

## \$60,000 5% Bonds

Sealed bids will be received by the Board of County Commissioners until 9 A. M. July 16 for \$60,000 5 per cent. (March 27) County Special Road Bonds. Denomination \$1000. Dated March 27, 1917. Maturity 40 years. Principal and interest at the office of the County Treasurer of Oldham County, Texas; the office of the State Treasurer of Texas, Austin, Texas; the First State Bank of Vega, Oldham County, Texas, or the National City Bank of New York, New York City.

Certified check to Board of County Commissioners 2 per cent. of bonds bid for.

Bids close July 9, 1917.

## \$25,000 5% Bonds

Sampson County offers \$25,000 5 per cent. 20-year Road Bonds at auction sale, Clinton, N. C., on July 9, 1917, 12 M. For information write J. H. Packer, Register of Deeds, or Butler & Herring, Attorneys for the Board, Clinton, N. C.

J. T. KENNEDY, Chairman Board County Commissioners.  
J. H. PACKER, Register of Deeds.

Bids close July 10, 1917.

## \$35,000 5% Bonds

Sealed bids will be received by the Board of Commissioners of the City of Talladega, Alabama, until 2 o'clock P. M. on July 10, 1917, for the purchase of \$35,000 5 per cent. 30-year Water-works gold bonds, bonds dated July 1, 1917. Interest payable semi-annually National Park Bank, New York. Each bid must be accompanied by a certified check in the sum of \$500, payable to the said Board of Commissioners.

The right is reserved to reject any or all bids.

A. G. WELDON, City Clerk and Tax Collector.

Bids close July 3, 1917.

## \$20,000 6% Bonds

Notice is hereby given that the Mayor and Board of Aldermen of the Town of Lambert, Mississippi, will offer for sale \$20,000 worth of Sewerage Bonds of said town and \$8000 worth of Electric Light Bonds of said town at 8 o'clock P. M. July 3, 1917, said bonds in denominations of \$500 and bearing 6 per cent. interest, due and payable semi-annually. Said bonds are serial bonds, the last of which mature July, 1937.

The Board reserves the right to reject any and all bids.

Bids close July 11, 1917.

## Improvement Bond Sale

The undersigned, acting for and on behalf of the Town of Farmville, in the State of Virginia, will on or before 12 o'clock noon, Wednesday, July 11, 1917, receive bids for the purchase of sixty (60) of five hundred dollars (\$500) each, or may sell the whole issue of \$50,000 (fifty thousand dollars). Said bonds dated July 1, 1917, payable twenty years (20) after date, bearing interest at the rate of five per cent. (5%), negotiable and payable at the First National Bank, Richmond, Virginia, and known as "Improvement Bonds, Series D," and exempt from town taxes. The town reserves the right to accept any or reject all bids. Bids must be delivered to me at Farmville, Virginia.

H. E. BARROW, Chairman Finance Committee.

Bids close July 2, 1917.

## \$370,000 Drainage Bonds

Notice is hereby given that sealed bids for the sale of a \$370,000 bond issue will be received by the Board of Commissioners of Bayou Meto Drainage District No. 1 of Lenoire County, Arkansas, at the office of Geo. M. Chapline, an attorney for said district, at 12 o'clock noon on the 2d day of July, 1917. Bids must be accompanied by a certified check on some reputable bank for the sum of \$5000 as evidence of good faith.

Bids will be received for 5 per cent., 5 1/2 per cent. and 6 per cent. bonds, the Board of Commissioners reserving the right to accept or reject any or all bids.

M. L. F. COX, Secretary Board of Commissioners.

Bids close August 16, 1917.

## Six Miles of Road Grading and Construction of Bridges and Culverts

Sealed proposals will be received by the County Court and the Advisory Committee at the office of the County Clerk of the County Court of Lincoln County at Hamlin, West Virginia, until 12 o'clock noon August 16, 1917, for the construction of the following roads and bridges:

Bridge across Two-Mile Creek at West Hamlin and four small bridges or culverts.

Bridge across Upper Two-Mile Creek near Sheridan Station.

Road beginning at West Hamlin and running with a survey made by J. M. Oliver, Civil Engineer, and extending to the county-seat of Hamlin, a distance of approximately six miles.

Plans and specifications will be on file in the office of J. M. Oliver, Civil Engineer, Huntington, W. Va., and in the office of the Clerk of the County Court of Lincoln County, West Virginia, after June 30, 1917.

A certified check for the sum of \$500 will be required to be deposited with each bid for bridge at West Hamlin, across Two-Mile Creek, and bridge at Upper Two-Mile Creek; also a certified check for the sum of \$500 with each bid for the whole six miles of said road to be let and \$100 certified check with each bid for each mile section of said road.

There will be no letting of road or bridge construction on July 2, 1917, as advertised May 28, 1917.

The Court also reserves the right to reject any and all bids or to let any or all work as a whole or any part thereof.

Given under my hand this 20th day of June, 1917.

ALBERT F. BLACK, Clerk County Court Lincoln County, West Virginia.

Bids close July 3, 1917.

## Road Improvement

Sealed proposals, addressed to T. H. Craig, Chairman, will be received at Yazoo City, Mississippi, by the Highway Commissioners of the Separate Road District, composed of Supervisors' District No. 3 of Yazoo County, Mississippi, until 2 o'clock P. M. Tuesday, July 3, for the improvement of certain roads in said District as shown approximately on road map of said District.

Approximate quantities: 30 miles clearing and grubbing, 30 miles subgrade, 300,000 cubic yards grading, 1134 lineal feet of 15-inch pipe, 2010 lineal feet of 18-inch pipe, 1441 lineal feet of 24-inch pipe, 588 lineal feet of 30-inch pipe, 190 cubic yards plain concrete, 290 cubic yards reinforced concrete, 50,000 cubic yards slag, gravel or stone, 212,000 square yards asphalt surface.

Bids invited as per proposals on the following classes of hard surface roads: Asphaltic concrete; brick, slag, gravel or stone with asphalt wearing surface.

Average haul approximately four miles. Plans, profiles and specifications are on file in the office of the Chancery Clerk of Yazoo County at Yazoo City, Mississippi, and also at the office of G. R. Thomas, engineer, Yazoo City, Mississippi.

Each bid must be accompanied by a certified check for \$1000, made payable without qualification to T. H. Craig, Chairman.

The right to reject any and all bids is reserved.

T. H. CRAIG, Chairman, Highway Co. Dist. No. 3.

Bids close July 10, 1917.

## Street Improvement

Sealed bids will be received by the Board of Mayor and Aldermen of the Town of Erwin, Tennessee, at the office of the Town Recorder, until 7 P. M., Eastern time, July 10, 1917.

The bids will be on approximately 14,000 sq. yds. paving, with the necessary grading, storm sewers, concrete curb and gutter, concrete sidewalk and a limited amount of sanitary house connections, under plans and specifications prepared by the Town Engineer.

A certified check, or the bond of a surety company authorized to do business in Tennessee, for ten per cent. (10%) of the amount of the bid submitted must accompany each bid to indemnify the town in case the successful bidder fails to execute the contract or to furnish the surety bonds for the construction and maintenance.

All work will be done under the supervision of the Town Engineer according to the specifications adopted at the time of the letting. The right is reserved to reject any or all bids.

O. E. BOGART, Recorder.

H. W. MORGAN, Town Engineer.

Bids close July 2, 1917.

## Highway

Sealed proposals, addressed to the County Commissioners of Frederick County, and endorsed "Proposals for building a section of State-aid highway in Frederick County," upon or along the Lewistown-Creagerstown road between Lewistown and Creagerstown, for a distance of about 4.28 miles, will be received by the County Commissioners of Frederick County at their office in Frederick City, Md., until 1 o'clock P. M. on the second day of July, 1917, and at that time and place will be publicly opened and read.

All bids must be made upon blank forms to be obtained of the State Roads Commission at its office, 601 Garrett Building, Baltimore, Md., must give the prices proposed both in writing and in figures, and must be signed by the bidder, with his address.

Each bid is to be accompanied by a certified check for two hundred dollars (\$200), payable to the County Commissioners of Frederick County, said check to be returned to the bidder unless he fails to execute the contract should it be awarded to him.

Plans can be seen and forms of specification and contract may be obtained on cash payment of one dollar (\$1) at the office of the State Roads Commission, Baltimore, Md. The County Commissioners of Frederick County reserve the right to reject any and all proposals.

By order of the County Commissioners.

F. M. STEVENS, President.

H. L. GAVER, Clerk.

Bids close July 7, 1917.

## Street Paving

Bids will be received by the undersigned until noon of Saturday, July 7, 1917, for the paving of Alabama and Selma Avenues in the City of Selma, Ala., with asphalt, asphaltic concrete, bitulithic or brick, approximately 25,000 square yards. Plans, specifications, etc., are on file at the office of the undersigned at Selma, Ala., from whom full information may be obtained.

W. O. CRISMAN, City Engineer.



Bids close July 10, 1917.

**Railroad Grading**

Bids will be received by the undersigned for the grading of 6 miles of standard-gauge log road in Russell and Buchanan Counties, Virginia, according to plans and specifications, which can be seen at the office of the undersigned at Putnam, Va., or at the office of J. P. Williams, Jr., Engineer, Tazewell, of J. P. Williams, Jr., Engineer, Tazewell, Va. WHITE OAK LUMBER CO.

Bids close July 10, 1917.

**Road and Bridge Construction**

Sealed proposals on blank forms furnished by the Board and addressed to the Board of County Commissioners of Bay County, Florida, at Panama City, Fla., will be received until 10 o'clock A. M. July 10, 1917, for furnishing material, equipment and labor for the following work:

**Road Construction in Bay County, Fla.**  
Division No. 1—Approximately 157,000 square yards of Vitriolized Brick, Asphalt, Asphaltic Concrete, Cement Concrete or Tarvia and Gravel and Sand Clay, or similar pavements, complete with necessary grading, pipe drains and curbing and appurtenances. Division to be awarded as a whole to one contractor or divided into two contracts; division to be made with respect to types of surfacing materials selected.

Division No. 2—Approximately 210,000 square yards of gravel paving, 92,000 square yards of sand clay and 20,000 lineal feet of top-soil surfacing; complete with necessary grading, pipe drains and appurtenances. Division to be awarded as a whole to one contractor.

Division No. 3—Approximately 123 miles of clearing, grubbing, grading and shaping of roadways, complete with necessary pipe drains and appurtenances. Any road or any combination of roadway to be awarded as a contract, though each road shall be contracted for as a whole; or the whole division may be awarded as one contract.

**Bridges for Road Improvements in Bay County.**

Approximately 5300 lineal feet of bridge construction, complete with sub-structures. A bidder may submit proposal on one or all divisions, and he may bid on one or more or all classes of pavement or road surface specified.

No bid will be considered which does not include every item of work required for each division or road upon which bid is made.

From the sale of bonds for the above work \$280,115 has been received.

Each bid on each division is to be accompanied by a certified check for at least two thousand dollars, and each bid on bridges is to be accompanied by a certified check for at least one thousand dollars, made payable to the Chairman of the Board; except in the case of bids on the parts of Division 3, where certified checks for five per cent. of the bid will be accepted; and where all the road work or all the road work and the bridges are bid upon by one contractor, a certified check for only five thousand dollars will be required. Certified checks will be forfeited as liquidated damages to the county if contract and bond are not executed within time specified.

The right is reserved to reject any or all bids.

Plans and specifications can be seen at the office of the County Clerk or the Engineer at Panama City, Fla., and specifications can be obtained by writing the Engineer or the County Clerk and the payment of two dollars to cover the actual cost of printing; said two dollars will be returned when the Specifications are returned in good order with a bona fide bid on the work.

Done by order of County Commissioners of Bay County, this June 6, 1917.

W. H. MARSHALL, Clerk.

E. V. CAMP,  
Consulting and Supervising Engr.,  
Box 436, Panama City, Florida.

Box 421, Atlanta, Georgia.

Bids close August 2, 1917.

**Steel Bridge**

Sealed proposals, to be filed with W. B. Moore, City Clerk, will be received by the City of Miami, Florida, up to 7.30 P. M. August 2, 1917, for the construction of a bridge over the Miami River.

The bridge will have a total length of 265 feet between end piers and will provide a 20-foot roadway and two sidewalks each 6 feet wide. It will consist of 6 piers and 5 steel deck spans with lumber floor, one span being a double-leaf bascule span. Payments will be made in cash, and monthly estimates will be rendered. To all bids there shall be attached a check of the bidder, certified to by a responsible bank, made payable to W. B. Moore, City Clerk, for an amount of ten per cent. of the bid, and the bidder who has a contract awarded to him and who fails promptly and properly to execute said contract and bond shall forfeit said amount, which is to be taken and considered as liquidated damages, but not a penalty for failure of bidder to execute contract and bond. Upon the execution of the contract and bond by the successful bidder, said check will be returned to him. The checks of unsuccessful bidders will be returned to them after the contract and bond of the successful bidder are executed. The contract will be awarded to the lowest responsible and competent bidder, but the City of Miami reserves the right to reject any and all bids and to waive informalities. Plans and specifications are on file in the office of the City Clerk, Miami, Florida, and in the office of Harrington, Howard & Ash, Consulting Engineers, Kansas City, Missouri. Copies of the plans and specifications may be secured from the Consulting Engineers by depositing twenty-five dollars therefor. Such plans and specifications are to be returned upon request, at which time refund of twenty dollars will be made.

W. B. MOORE,  
City Clerk.

**Bridge Construction**

Bids close July 10, 1917.

The Commissioners of Macon County, Ga., will receive sealed proposals at the office of the Clerk of the Board at Oglethorpe, Ga., until 11 A. M. July 10, 1917, for furnishing all materials and constructing a reinforced concrete bridge over Spring Creek, about one mile from Montezuma, Ga. This bridge will contain 80 or 90 cubic yards of concrete and is the first of a number of bridges for which \$100,000 has been appropriated.

Plans may be seen and specifications and forms of proposal obtained at the office of the Clerk of the Board of Commissioners in Oglethorpe, Ga., or at the office of Arthur Pew, Engineer, Atlanta, Ga.

F. J. FREDERICK,  
Chairman.  
A. H. PERRY,  
Clerk.

Bids close July 17, 1917.

**Plans and Specifications Wanted**

Clerk's Office, County Court,  
Gilmer County, West Virginia.

Glenville, West Virginia, June 25, 1917.

The County Court of Gilmer County, West Virginia, will on the 17th day of July, 1917, receive proposed sketches of plans and specifications for Courthouse, Jail and Jailor's Residence, to be erected on the lot where the present Courthouse now stands, in accordance with the detailed statement now on file in the County Court Clerk's office of said Gilmer County of the kind and cost of buildings proposed to be erected by the Court.

By order County Court.  
N. E. RYMER, Clerk.

Bids close July 2, 1917.

**Court House and Jail**

Sealed bids will be received by the County Court of New Madrid, Missouri, until 2 o'clock P. M. July 2, 1917, at the office of the County Clerk in New Madrid, Missouri, for the completion of the Court House and Jail buildings according to plans and specifications now on file at the office of the County Clerk at New Madrid, Missouri, and at the office of H. G. Clymer, Architect, 620 Walnut Street, St. Louis, Mo.

The Court reserves the right to reject any or all bids.

J. L. RANSBURGH,  
County Clerk.

**Teams For Work**

A 20-team Wheeler Outfit, complete, open for work after July 10. What have you to offer?

SOUTHERN & NOE,  
General Contractors,  
Morristown, Tenn.

**Drainage Ditch**

Bids wanted for the construction of 18 miles of ditches to drain about 2000 acres of bottom land in Sweetwater Drainage District in Gwinnett County, Ga.

For full information address  
JOHN R. CAIN,  
Norcross, Gwinnett County, Ga.,  
R. F. D. No. 1.

Bids close July 11, 1917.

**Electric Light Improvements**

Apex, North Carolina.  
Sealed proposals will be received for materials and labor in connection with the above work, consisting of twenty-two kilovolt power transmission line five miles in length, sub-station building, are light and distributing systems, by the Mayor and Board of Commissioners, at the City Hall, Apex, North Carolina, until 10.30 o'clock July 11, 1917, when they will be opened and publicly read.

Plans and specifications are on file at the office of the City Clerk.

Plans and specifications may be procured by prospective bidders by addressing direct the Consulting Engineer and making a deposit of five dollars, which deposit will be refunded upon the return of the plans and specifications in good condition.

Each proposal must be accompanied by a certified check in the sum of five (5) per cent. of the amount bid, as evidence of good faith upon the part of the bidder.

The town reserves the right to reject any and all bids or to accept any which may seem to it to be the best interest of the Town of Apex, North Carolina.

H. B. HARWARD, Mayor.  
J. F. MILLS, City Clerk.  
B. O. AUSTIN, Consulting Engineer,  
Charlotte, N. C.

Bids close July 11, 1917.

**Packing House and Equipment**

Sealed proposals will be received by the Cape Fear Packing Company at its office, 402 Southern Building, Wilmington, N. C., at 10 o'clock noon on Wednesday, July 11, 1917:

- 1st. For a reinforced concrete and brick packing-house.
- 2d. For the insulation.
- 3d. For the elevators.
- 4th. For the boilers.
- 5th. For the engine.
- 6th. For the generator and switchboard.
- 7th. For special packing-house equipment.
- 8th. For refrigerating machinery and piping.
- 9th. For steam fitting, lard and grease lines.

Plans and specifications may be seen at

the office of the Cape Fear Packing Company and at the office of the Atlanta Builders' Exchange, Atlanta, Ga., and may be had on application to the architects, Wilson & Sompayrac, Palmetto Building, Columbia, S. C., or the Packers' Architectural & Engineering Company, Manhattan Building, Chicago, Ill. A deposit of \$25 will be required as an evidence of good faith and a guarantee that a bona fide bid will be filed and all documents returned promptly.

The right is reserved to reject any or all bids.

CAPE FEAR PACKING COMPANY

Bids close July 3, 1917.

**Sewer System**

Notice is hereby given that on the 3d day of July, 1917, the Mayor and Board of Aldermen of the Town of Lambert, Mississippi, will receive sealed bids for construction of Sewer System, consisting of two miles of sewer and Septic Tank.

The engineer and the plans and specifications may be seen in the Clerk's office July 2 and 3, 1917.

The Board reserves the right to reject any and all bids.

## Machinery, Equipment and Supplies —WANTED—

### WANTED Second-Hand WILLIAMS Crushing and Grinding MILLS

State location, price, terms, size, style and condition of mill, and when bought.

Address CRUSHMILL  
Manufacturers Record Baltimore, Md.

**WANTED**

18 or 20 in. hot rolling mill, 3 high rolls.

10 or 12-in. band mill, 3 high rolls.

2 bituminous gas producers with capacity for 300 lbs. of coal per hour.

Hot or cold rolling mill equipment.

Address N. B. C.

Care Manufacturers Record  
BALTIMORE, MD.

**WANTED**

10 or 15-ton locomotive crane, 40-ft. boom.

25-ton open hearth ladle crane, with 10 or 15-ton auxiliary hoist, both cranes to be approximately 50-ft. span.

Steel building, approx. 275 ft.x50 ft., with 50-ft. lean-to.

Steel building, approx. 150 ft x100 ft., with 30-ft. lean-to.

Address T. W. S.

Care Manufacturers Record  
BALTIMORE, MD.

## ELECTRIC MOTORS WANTED

Send particulars to

**AMERICAN P. I. CO.**

48 E. 8th St, New York City

**WANTED—Steel Discs and Cuttings**

We have customers for your steel sheet ends, strips and odd shapes, all gauges and sizes. What have you that we can list? What do you need in the way of cuttings or strips that we can supply? Write

ALFRED PATEK

1657 Monad-ock Bldg. CHICAGO, ILL.

**WANTED**

150-kilowatt Rotary Converter or Motor Generator Set, 250 volts D. C. A. C. Circuit, 3-phase, 60-cycle switchboard for above. Haulage Locomotive, 250 volts. Two short Wall Machines, 250 volts.

Room 1029

120 Broadway New York, N. Y.

## RELAY RAILS WANTED

We are in the market for  
500 tons 30 to 40-lb. Rails.  
1200 tons 45 to 60-lb. Rails.  
800 tons 46 to 90-lb. Rails.  
Price to be f. o. b. point of shipment.  
Terms Cash.

**PENNSYLVANIA TRADING CO.**

410 Pennsylvania Bldg.,  
PHILADELPHIA, PA.

**WANTED  
BOILER AND STACK**

80 or 100 H. P. H. R. T. Boiler, complete, with stack and fittings. Must be in A-1 condition and carry F. & C. policy for 125 lbs. working pressure. State cash price, age, make and condition.

P. O. Box 335 BARTOW, FLA.

**WANTED**

2 18-ton Locomotives.  
30 four or six-yard Cars.

Address "B. O. C."

Manufacturers Record Baltimore, Md.

**WANTED**

Locomotive Crane for Clam Shell Work.

Write "LOCO"

Manufacturers Record Baltimore, Md.

**WANTED**

Macadam and Tandem Roller. Must be in good condition.

Address Box 795

Care Manufacturers Record Baltimore, Md.

**BUILDING MATERIALS**

M. E. RANDOLPH  
Dante, Va.

wants catalogues, samples and prices on general building material.

**WANTED****Automatic Screw Machines**

No. 0 and No. 00 B. & S. Automatic Screw Machines.

INTERNATIONAL ARMS & FUSE CO.  
Bloomfield Ave. Bloomfield, N. J.  
Phone, Bloomfield 4209

**WANTED**

Three or four double-drum hoists with swiveling gear, either with or without electric motors. If motors furnished, must be slip-ring type and 30 to 50 H. P. capacity.

A. H. COX & CO., Inc.

Seattle Washington

## LOCOMOTIVE CRANE WANTED

We want at once for our own use a 15, 20 or 25-ton Locomotive Crane. Would take crane that needs repairing. Will trade 10-ton Industrial in part. Prefer long boom and outriggers.

INDUSTRIAL SERVICE COMPANY,  
Lincoln, N. J.

## Special Advertisements of General Interest.

We are **not** Speculators, but are **prepared** to  
buy outright

### ABANDONED MANUFACTURING PLANTS

or

### DISCONTINUED BUSINESSES

We are **ready** to buy.

Let us know what you have to sell.

### FISHEL & MARKS

3018 E. 55th Street  
CLEVELAND, O.

## SHIP-BUILDING SITE ON PENSACOLA BAY

### The Deep Water Port of the GULF OF MEXICO

405 feet frontage on deep water harbor by 2606 feet deep, extending to Government Pier Head line.

Lies between docks of L. & N. R. R. Co. and Gulf, Fla. & Ala. R. R. Co. Switching facilities to all railroads entering city—finely located with relation to lumber and timber supplies, and coal and iron fields of Alabama.

**\$100,000.00**

Will consider trade of other real estate at reasonable valuation up to \$25,000.00—balance part cash and long term at low rate of interest.

For further particulars address

**REALTY CORPORATION OF PENSACOLA**  
PENSACOLA, FLA.

**N&W**  
NRY.W

Natural Resources for Chemical Plants  
ABOUND IN

Norfolk and Western Railway Territory

**N&W**  
NRY.W

The principal minerals essential to the operation of chemical plants are coal, salt, limestone, oil, gas, sulphur, also water. In Norfolk & Western territory all these minerals are found in economic quantities. There is an area in which high-grade coal, an abundance of salt, limestone, oil and gas are found on the same property, and each may be recovered independent of the other.

This territory is practically undeveloped and covers several hundred square miles. If interested, write to

F. H. LA BAUME, Agricultural and Industrial Agent, Norfolk & Western Railway,  
Roanoke, Va.

Referring to File M-7413.

### SALE BY PUBLIC AUCTION

## Two Water Power Properties

ON NEW RIVER, WEST VIRGINIA

Sale from steps of Federal Building, Charleston, W. Va., Monday, July 23, 4 P. M., by order of the Federal Court, in the process of administration of a trust estate.

These properties of 8500 and 22,000 horse-power, respectively, consist of sixteen hundred and sixty-five acres, located on river draining over six thousand square miles, including territory covered by Appalachian forest reserve.

They are within short transmission distance of the site selected by the United States for the new armor plate and munition factory, in a district which exports much coal, coke, lumber, lime, salt, oil and natural gas.

The properties are heavily timbered, one is underlaid by coal, and both are traversed from end to end by a trunk line railroad which ranks fifth in the United States in tonnage handled.

The power on these two properties can be developed at a lower price per horse than on any other undeveloped site east of the Rocky Mountains.

For full particulars, engineer's reports, photographs, terms of payment and appointment with engineer on properties, address

**J. M. MOREHEAD, Executor**

Peoples Gas Building

CHICAGO, ILL.

### Sale of Valuable Timber Lands and Lumber Plant

Pursuant to a decree entered on the 4th day of May, 1917, and a supplemental decree entered on the 1st day of June, 1917, in the United States District Court for the Western District of North Carolina, sitting at Greensboro, N. C., in an action entitled "Central Trust Company of Illinois and Wm. T. Abbott, Trustees, Complainants, vs. Grandin Lumber Company and W. J. Grandin as Receiver of the Grandin Lumber Company," the undersigned Commissioners, appointed by the Court, will on Monday the 23d day of July, 1917, at noon, at the Courthouse door in the town of Wilkesboro, Wilkes County, N. C., sell, as directed by said decree, and said supplemental decree, at public auction to the highest bidder, the premises and property in said decree mentioned, same being nearly all of the holdings of the Grandin Lumber Company, consisting of 472 tracts of land in the counties of Wilkes, Watauga and Caldwell, N. C., estimated to be 65,000 acres and to contain many hundreds of millions of feet of merchantable chestnut, oak, pine, poplar and other kinds of timber. Upon said property is located a valuable mill. The premises and property to be sold are specifically described in a certain deed of trust dated the 1st day of December, 1911, and executed by the Grandin Lumber Company to Central Trust Company of Illinois and Wm. T. Abbott, Trustees, and recorded in the offices of the Register of the Counties of Wilkes, Watauga and Caldwell, conveying 471 tracts of land in said counties, and in a certain deed of trust dated 9th day of August, 1913, executed by the Grandin Lumber Company to Central Trust Company of Illinois and Wm. T. Abbott, Trustees, and recorded in the office of the Register of Deeds of said County of Caldwell, conveying one tract of land in said County of Caldwell, all of said tracts being likewise specifically described in the aforesaid decree of sale. Reference is made to said deeds of trust and to said decree of sale for an accurate description of the premises and property to be sold.

All of said property of every kind and description will be sold in one parcel and as an entirety. No bid will be accepted from any bidder unless such bidder shall make a deposit of \$20,000 with the Commissioners in money or certified check on a national bank with a capital of at least \$100,000, balance of purchase money to be paid at such time or times and in such manner as the Court shall direct, but no payment shall be required to be made until 90 days after confirmation of sale. The sale is subject to the confirmation of the Court, and reference is made to said decree of sale as to the full terms and conditions of the sale.

The undersigned will be glad to furnish additional information to any interested parties.

W. B. COUNCIL, Hickory, N. C.,  
R. W. WINSTON, Raleigh, N. C.,  
Commissioners.  
PAM & HURD, The Rookery, Chicago, Ill.,  
WINSTON & BIGGS, Raleigh, N. C.,  
Solicitors for Complainants.

### COPPER MINE

Located in Virginia. 100' shaft, several drifts, all in 7½% ore, 45" to 60" wide.

This property is fully equipped and nicely developed. Present owners offer same for sale, or will entertain proposition for operating on percentage basis.

**W. E. GRANT, Jr.**

817 E. Franklin St.

Richmond, Va.

### \$18,000 Machine Shop FOR SALE

Account disrupted membership.  
Address

**MACHINE SERVICE CO.**  
OKLAHOMA CITY, OKLA.



## Bargains in Machinery and Supplies.

### Sale of Unused Equipment

THE CITY OF BLUE ISLAND offers for sale the following equipment, owned and possessed by it, and at present not in use:

- |   |   |
|---|---|
| 1 Air Compressor, 14x24x16, Rand Drill Type, No. 10, Duplex Steam, two-stage air, 1000 ft. capacity per minute, at 125-lb. pressure.<br>1 Duplex Pump, 16x10x12, 500 gals. per minute.<br>1 Duplex Pump, 8x8x6, 125 gals. per minute.<br>2 Duplex Pumps, 7½x5x6, Worthington boiler feed.<br>1 Simplex Pump, 5x9x12, vacuum pump.<br>1 Duplex Pump, 6x4x6, Manistee pump. | 4 Kuhlman Transformers, 60 K. W., 60 cycles, 12,000 to 2300 and 440 volts, air cooled.<br>1 Switchboard, 40x48x2, marble, with switches on same, 3-blade quick break.<br>2 Boilers, 66x16, return tubular.<br>1 Open Heater, 4x14 ft.<br>2 Square Tanks, 6x6x6 ft.<br>60 feet 4-inch pipe with covering on same.<br>About 3 tons of scrap pipe fittings and valves. |
|---|---|

Said equipment is now in the power plant of the City of Blue Island, Ill. Bids for the purchase of said equipment will be received by the City Council of the City of Blue Island until 8 o'clock July 2, 1917, sale being made to the highest bidder.

Mail bids to the undersigned, plainly indicating on outside of envelope that they are for the purchase of old equipment.

The City Council reserves the right to reject any or all bids.

(Signed) GEO. J. LANDGRAF,  
City Clerk.

### For Sale at Bargain Prices

Located at  
**SOMERSET, KY., for Immediate Shipment**

- One 80 H. P. Bollman & Wilson stationary type horizontal boiler, with stack and all fittings.  
 One 80 H. P. Atlas automatic type stationary engine.  
 One Mansfield Circular Sawmill, 10 M capacity, complete with gang edger; fine shape.  
 One Meeks-Kaiser self-feed Rip Saw.  
 Large assortment of Steel Pulleys, Shafting, Hangers, Cut-off Saws, Pipe and Valves, etc. If you can use, write or wire, as we want to move promptly and will make prices accordingly.

Southern Machinery Exchange Somerset, Ky.

### FOR SALE

The following second-hand machinery in good order, subject to inspection:  
 1 each D. C. Electric Motors; 15 H. P. Diehl;  
 20 H. P. G. E. (Shunt); 25 H. P. Lundell; 25 H. P. G. E. (Shunt).  
 1 30 K. W. Generator.  
 1 Two-spindle Horizontal Boring Mill, Espen-Lucas.

1 40x60 Water Cylinder Tumbler.  
 1 16" Wood Polishing Machine.  
 Correspondence solicited.  
**TAYLOR-WHARTON IRON & STEEL CO.**  
 High Bridge, N. J.

### Complete Electric Light Plant

#### FOR SALE

- 1 30 K. W. Westinghouse Belted Generator, 3-phase, 60-cycle, 2300 volts, switchboard and exciter.  
 1 65 K. W. Westinghouse Generator, 3-phase, 60-cycle, 2300 volts, direct connected to Harrisburg Automatic Engine, switchboard and exciter.  
 1 110 H. P. Lombard High-Pressure Boiler, Pump and Heater, all piping, etc. Practically new. Sell as a whole or in part.  
**K. L. JONES MACHINERY CO.**  
 Atlanta, Ga.

### STEEL LOCOMOTIVE BOILER

A 1 condition. All seams double riveted. 56 in. diameter. 26 feet over all. 180 2-in. tubes. Firebox 5 ft. long. Smoke box 5 ft. inside. Hancock inspirator, gauge cock and water glass. Water pipes and check valves. Smoke stack 45 feet high. 2 sets Harrington grate bars. 1 set Gordon hollow blast grate bars. Tested to stand 290 lbs. Horse power 160. Now in service carrying 150 lbs. New would cost \$7000. Sell P. O. B. cars Laurel Hill, La., \$2000.00.

**GULF WOODWORKING CO., Inc.**  
 707 Canal Bank Bldg. NEW ORLEANS, LA.

### POWER PLANT

22x42" left-hand Vilter Corliss rope wheel with tightener and rope, heavy-duty frame, Nordberg full-stroke valve gear, steam separator, mechanical oil device; fine condition. \$1650.  
 One 350-H. P. Crawley Heater, \$125.  
 One 12x6x12 Knowles Duplex Underwriters Fire Pump, \$200.

**Wisconsin Machinery & Mfg. Co.**  
 Milwaukee Wisconsin

### Corliss Engine and Boilers For Sale

One 18x36 right-hand heavy duty Wetherill Corliss Engine. Wheel 14'x32" face.

Four 250 H. P. each Berry Boilers, built for 150 lbs. pressure.

All available for immediate delivery on board cars St. Petersburg, Fla.

**MARVIN BRIGGS, INC.**

167 Sixth St. Brooklyn, N. Y.

### BRASS SCREWS

In original packages. Oval, round and flat head. At attractive discount. Send for list.

**Union Traction Company of Indiana**  
 Anderson, Indiana

### FOR SALE

One good second-hand 60 K. W. Single-Phase 2300-volt Alternator. Complete with 2½ K. W. exciter, switchboard and instruments.

**Senatobia Electric Light & Water Plant**  
 H. E. Johnson, Supt.  
 Senatobia, Miss.

### One Jones Stoker For Sale

1 Jones Stoker for soft coal for 100 to 150 H. P. boiler, very little used, complete with engine fan, etc. Unable to use on account of city ordinance.

**Strong Rubber & Asbestos Mfg. Co.**  
 21 Walker St., New York City

### D. C. UNITS

K. W.	Generator.	Engine.	Price.
150	Wghse.	Fleming	\$2000
100	W. E.	Ridgeway	1700
30	G. E.	Ideal	750
20	G. E.	Ideal	650

**POWER MACHINERY EXCHANGE, Inc.**  
 1 Montgomery Street Jersey City, N. J.

### I HAVE FOR SALE

Two 6000-gal. Steel Storage Tanks; Steam Engines from 6 to 40 H. P.; Steam Pumps; Gould High-Pressure Power Pump, 2x6; lot Paint Mixers; five 24-in. Flat Cars, etc.

**R. W. TRAYLOR**

180 Clinton Ave. Jersey City, N. J.

### WATER TUBE BOILER & FEED PUMP FOR SALE

One 570-H. P. Helme Water Tube Boiler, in fine condition, has been in service three years; carries Hartford Insurance for 180 lbs. Will release same about August 1, 1917.  
 One 12x8x12 Cameron Boiler Feed Pump, in fine condition, ready for immediate shipment.  
 For information write

**W. STEWART, Purchasing Agent**  
 N. N. & H. Ry. G. & E. CO. HAMPTON, VA.

## Three Generating Sets FOR SALE

Three 1250 H. P. Bates Cross Compound Corliss Engines directly connected to three 1000 K. V. A. Westinghouse Generators, 25-cycle, 3-phase, 440-volt. Equipment in first-class condition.

If interested, address

**Continental Portland Cement Company**  
 701 Wright Building, St. Louis, Mo.

## FOR SALE

### Switchboards, Transformers, Regulators Belt Conveyors

- 1 3000 V., Type F, A. C. Voltmeter.  
 1 300 V., Type G, M., A. C. Voltmeter.  
 4 Panels, controlling 8 350 K. W. Transformers. Equipment per panel:  
 2 300 Amp., Type F, Ammeters.  
 1 1200 K. W. Polyphase Indicating Wattmeters.  
 2 Single Phase, Type C, Wattmeters.  
 4 2400 Amp., 250 V., S. P. D. T., Type D, Knife Switches.  
 1 300 Amp., 2300 V., 4 P. S. T. Oil Circuit Breakers.  
 12 200 Amp., 3300 V., S. P. S. T. Disconnecting Switches.  
 8 350 K. V. A. Scott Connected 3-phase, 2300 V., to 2 phase.  
 2 American Blower Co. 36" Blowers, direct connected to 2 2.7 H. P., 240 V., 2 phase, 60 cycles Motors, 525 R. P. M.  
 10 Panels, each controlling 2 300 K. W., 60-cycles, single-phase feeders, complete with switches, ammeters, voltmeter, and 15 1200 Amp., 250 V. oil circuit breakers.  
 19 Potential Feeder Regulators, motor operated, designed for 800 Amp. 240 V. circuits.  
 All made by Westinghouse Elec. & Mfg. Company.  
 Also Belt Conveyors, Electric and Steam Pumps.

**Louisville Gas & Electric Company, Inc.**  
 LOUISVILLE, KY.

### FOR SALE

### IMMEDIATE SHIPMENT

- 2-300 KW., 2300 V., 60 C., 2 Phase, 150 RPM Generators, direct connected to Heavy Duty Piston Valve Engines.  
 1-600 KW., 2300 V., 60 C., 2 Phase, 100 RPM Generator, Heavy Duty Corliss, direct connected to Heavy Duty Cross Compound Engine.  
 1-375 KVA., 80% PF., 240 V., 2 Phase, 60 C., Allis-Chalmers Turbo unit, complete with jet condenser and auxiliaries.  
 1-200 KW., 250 V., Heavy Duty Corliss Engine generating set. One 80 and one 50 KW., 250 V., Tandem Compound Automatic engine sets. Price three units FOB foundations, \$10,500.00. A-1 condition.  
 12-Corliss Engines, 300 to 1300 HP. (Heavy Duty Type). Water tube and return tubular boilers.  
 2-18"x24" Heavy Duty 4-valve belted engines. Wheels 10 ft. x 27" face.

Above equipment in exceptionally good condition.

**ROSS POWER EQUIPMENT COMPANY**  
 617 Merchants Bank Bldg. Indianapolis, Ind.

Long Distance Telephone—Main 6417

### AIR COMPRESSORS

#### FOR SALE

- 1 Blaisdell 10x10x10 Steam Driven, 150' per minute.  
 1 Sullivan Steam Driven, two-stage, 470' per minute, 14x14x9x16.  
 1 Ingersoll-Rand Class NF1 Steam Driven, 6x6x6, also Receiver.  
 1 8x12x6 Steam and Belt Driven, also 36x6 Receiver.  
 1 12x10 Sullivan Compressor.  
 1 1250-foot Compressor. Specifications on application.  
 Write for wants also on machine-shop tools and power machinery.  
 Also, a fine lot of woodworking machinery for sale.

**MACHINERY & SUPPLY CO.**

R. S. PETTY, Manager Greensboro, N. C.

### Pattern and Core Box Equipment

For making nearly a complete line of Cast-Iron Pipefittings. Mostly unused except for making test runs. Address

**OIL WELL SUPPLY COMPANY**  
 Imperial Works Oil City, Pa.

## Immediate Delivery

72"x72"x26" 4-head Betts Planer Motor Drive, inspected under belt three hours from New York City; first-class condition.

100" 2-swivel-head Betts Vertical Boring Mill, inspected under belt one hour from New York City, 69" under cross rail, table 90" diameter; first-class condition.

No. 4 Brand-New Le Blond Universal Miller.

We own and can make delivery immediately on above.

Over 500 machines in stock. Send for catalogue.

**MODERN MACHINERY EXCHANGE**  
 52 Walker St., NEW YORK CITY

[CONTINUED FROM PRECEDING PAGE]

## Blast Furnace and Bessemer Blowing Engines FOR SALE

One (1) Bessemer Blowing Engine:  
Double tandem engine, horizontal type.  
Diameter H. P. steam cylinders, 28".  
Diameter L. P. steam cylinders, 50".  
Diameter air cylinders, 60".  
Stroke, 60".  
Corliss valve gear. Flywheel 30 ft. diameter.  
Total weight of engine, 528,000 lbs.  
Floor space, 23'x45'.

Six (6) Blast Furnace Blowing Engines:  
Diameter steam cylinders, 42".  
Diameter air cylinders, 94".  
Stroke, 60".  
Vertical long cross-head type.  
Weight about 80 tons each.  
Five of these engines have Bulkley condensers.  
Extreme height, 29' 10".  
Width, 10' 10".

### J. N. FLEMING

422 Western Reserve Building

Cleveland, Ohio

FRANK SAMUEL

S. M. TOMLINSON

S. A. COCHRAN

### FRANK SAMUEL

Harrison Bldg., Philadelphia, Pa. 39 Cortlandt St., New York

ORES—Manganese, Chrome and Iron.  
SCRAP IRON and STEEL of All Classes

BUYERS and DISMANTLERS of MILLS, FACTORIES and RAILROADS.

### D. C. UNITS—250 Volts

K. W. Make.	Volts.	Rev.	Engine.
500 G. E.	250	90	18 & 48x48 Corliss type.
300 Triumph	250	20 & 30x26 L. & B. C. C. Cor.	
250 C. W.	250	110	22x36 Nordberg Corliss.
250 G. E.	110	170	14 1/2 & 20x24 B. & W. Cor.
175 G. E.	250	200	18 1/2x21 Buckeye.
150 De Laval	110	900	De Laval St. Tur.
125 Tr. Ry.	250	12	20x16 McEwen Tan.
115 Allis	250	9	17 1/2x24 Buckeye.
100 Westge.	110	250	20x16 Chuse.
75 Westge.	250	270	14x14 Payne.
35 Westge.	250		Buckeye Simple Engine.

WILSON MACHINERY CO.  
419 Pine St.—OTHER SIZES—St. Louis

### SECOND-HAND BRICK MACHINERY

FOR SALE—Cheap for Cash  
f. o. b. cars Slidell, La. Second-Hand Brick Machinery; Chambers No. 8 Pug Mill, Brick Machine, Automatic Cutter, all good condition. Address

SOUTHERN CREOSOTING CO., Ltd.  
Slidell, La.

### ATLAS ENGINE

FOR SALE. 60 H. P., in first-class condition, with oil separator and gauges. If interested, address

BELLEVUE INDUSTRIAL FURNACE CO.  
Detroit, Mich.

### STEAM ENGINES

FOR SALE

150 H. P. Stationary Hamilton Corliss High Speed; fully equipped; good as new.

WHELOCK COMPANY  
1750 N. Campbell Chicago, Ill.

### D. C. Motor and Generator

For Sale at Bargain Price—A Fairbanks-Morse 150 H. P., 600 R. P. M., 115 V., D. C., compound-wound Motor, complete and in excellent condition. Can also be used as generator; rated about 120 K. W., 700 R. P. M. Also have other sizes.

V. M. NUSSBAUM &amp; CO. Ft. Wayne, Indiana

### ENGINES AND GENERATORS

Pair 15x42" Brown 4-valve Engines.  
18x36" Allis Corliss.  
300 K. V. A. Westinghouse 220-440-volt 60-cycle Generator.  
150 K. W. General Electric 220-2200-volt 60-cycle Generator.  
Guaranteed condition.

WICKES MACHINERY COMPANY  
Jersey City, N. J.

### CORLISS ENGINES

10x24 St. L.; 12x36 Ham.; 14x36 St. L.; 16x36 Ham.; 18x42 Monarch; 20x42 Ham.; 10x42 Allis; 20x48 Ham.; 30x42 Penna.; 32x60 Allis; 30x48 Allis; 24x48 Ham.; 18 & 34x48 Bates; 18 & 30x42 Monarch; 24 & 24x48 Allis Twin; 26 & 26x48 Allis Twin; 26 & 48x60 Allis; 32 & 62x60 Allis C. C.

WILSON MACHINERY CO.  
419 Pine St.—OTHER SIZES—St. Louis

### FOR SALE Used Engines in good condition

FOR IMMEDIATE SHIPMENT

1 12x13 Harrisburg Automatic Single Valve.  
1 20x18 Harrisburg Automatic Single Valve.  
1 16x16 Porter-Allen Automatic Single Valve.  
1 9x12 Skinner Center Crank.  
1 16x14 Sturtevant Center Crank.

Also,  
1 80 K. W. Crocker-Wheeler 250-Volt Belted Generator.  
Write us for further information.

Harrisburg Foundry & Machine Works  
Harrisburg, Pa.

### For Sale

### THREE STEAM POWER PLANTS

One 120 K. W., one 150 K. W. and one 200 K. W., all 250-volt D. C., complete with boilers, engines, generators, switchboards, pumps and piping systems. In excellent condition and can be inspected while now running. Bargains to quick buyers. Specifications and prices upon request.

### AMHERST COAL COMPANY

Huntington, W. Va.

### TANKS FOR SALE

6 each 6, 5 and 4 ft. diameter, 20 to 30 ft. long; 12 7x9; 5x5 Tanks, round, closed and open; 1200 H. P. Closed Heater, like new; also Corliss Open Heaters, 500 and 800 H. P. each; 14x20 Mine Hoist, reversible and friction; 2 525 H. P. B. & W. Boilers, with NEW HEADERS, grates, fronts, etc., 160 lbs. steam; absolutely perfect.

EASTON MACHINERY COMPANY  
Drake Building Easton, Penna.

### STEEL TANKS FOR SALE

66 feet long, 6 1/2 feet diameter, 1/2-inch steel, working pressure 150 pounds. Ideal for pressure, storage or conversion into tank cars. Price \$1500 f. o. b. cars at shipping point. Located in Pennsylvania. Rate quoted to Tulsa, 84c.

J. A. PARKINSON, 1510 Commerce Building  
Phone, Main 4256. Kansas City, Mo.

### 30-TON STEAM DRIVEN REFRIGERATING MACHINE

Double acting 8' x 16' Vertical Compressors, engine is slide valve horizontal; floor space 8' x 12'. Outfit in complete, first-class order, made by Wegner Machine Co., Buffalo, N. Y. Address

H. M. BRUCH  
Gridley Building, Syracuse, N. Y.

## For Sale

We recently purchased the Cape May, Delaware Bay & Sewell's Point Railroad, Cape May, N. J., their entire road and equipment, and offer the following:

13 miles of 70-lb. Relaying Rail.  
20 miles of Trolley and Feed Copper Wire, 2/0 and 4/0 plain.

All the power-house equipment, consisting of one Hamilton Corliss Engine, 200 H. P., belted to Westinghouse generator, 250 K. W., 575 volts, 435 amperes, 450 R. P. M.

2 Woodbury Engines, direct connected to Thresher generators, 500 volts, 150 amperes, 100 K. W., 245 R. P. M.

Switchboards, Voltmeters and Ammeters. Boiler Feed Pumps, Heaters, etc.  
2 125 H. P. Heiney Water-Tube Boilers.  
1 125 H. P. Coatesville Return-Tubular Boiler.  
All the Trolley Cars, Box Cars, Flat Cars, etc.

We will sell this road in its entirety as a running proposition or will dismantle and sell separately.

HENRY A. HITNER'S SONS CO.  
Station K Philadelphia, Pa.

### FOR SALE

1 80 K. W. D. C. Generator, G. E. make, class 6-40-300; no load, 115 volts; full load, 125 volts; 330 amp.; 300 R. P. M., D. C. on one base to 9'x17'x12" Harrisburg tandem compound 4-valve engine.

1 150 H. P. and 1 200 H. P. Heiney Boiler.  
2 100 H. P. Scotch Marine Boilers.  
1 15-ton Locomotive Crane.

1 35 and 2 20 H. P. D. C. Motors.

1 15 H. P. A. C. Motor.

1 Haulage Engine, 20x18, double cylinder.

1 Lambert 3-line Ground Skidder with overhead rig.

1 Case 10-ton 40 H. P. Road Roller and Tractor.

1 2-yd. Ransom Mixer.

MACHINERY EXCHANGE COMPANY  
NEW ORLEANS, LA.

1 42-in. 3-Drum Invincible Sander.

1 42-in. 3-Drum Columbia Sander.

1 60-in. 3-Drum Columbia Sander.

1 48-in. H. B. Smith Endless-Bed Sander.

2 24-in. 2-Drum Egan Sander.

1 24-in. 1-Drum Boss Sander.

1 30x6 Fay 6-Roll Double Surfer.

1 28x8 Woods 6-roll Double Surfer.

1 26x8 Rogers 6-Roll Double Surfer.

1 30x12 999 6-Roll Double Surfer.

2 30x6 Egan Cabinet Planers.

1 27x7 Smith Cabinet Planer.

### Woodworking Machinery of All Kinds. Engines and Boilers.

CLEVELAND BELTING & MACHINERY CO.  
1922 Scranton Road Cleveland, O.

### We Make a Specialty of Dismantling

Old plants of every description, such as saw-mills, electric-light plants, etc. Our terms are spot cash. Advise us what you have to offer.

THE PIEDMONT IRON & METAL CO.  
BALTIMORE, MD

### FOR SALE

One General Electric Mine Locomotive, 5 1/2-ton, 250-volt, D. C., Class 1-M-103-A1, No. 1645, in operating condition.

LaFollette Coal & Iron Co.

LaFollette, Tenn.

### BARGAINS IF TAKEN AT ONCE

1 Type "Y." 25 H. P., 325 R. P. M. Fairbanks-Morse Oil Engine.

1 Type "N." 25 H. P., 280 R. P. M. Fairbanks-Morse Oil Engine.

1 250-volt, 200 Amp., 630 R. P. M. Commercial Electric Co. D. C. Generator.

1 115-volt, 20 K. W. 1200 R. P. M. Fairbanks-Morse D. C. Generator.

PEOPLES SERVICE COMPANY  
311 Barnes Bldg. Muskogee, Okla.

## IMMEDIATE SHIPMENT

800 H. P. Westgh. Synchronous Motor, 3-phase, 60 cycle, 720 R. P. M., 440-550-2300 volts.

300 H. P. Ft. Wayne (G. E.) Squirrel Cage Motor, 3-phase, 60 cycle, 900 R. P. M., 550-2300 volts.

300 H. P. Westgh. Induction Motor, 3-phase, 60 cycle, 440 volts, 500 R. P. M.

250 H. P. Westgh. M. S. Motor, 3-phase, 25 cycle, 550 volts, 500 R. P. M.

ARTHUR S. PARTRIDGE

415 Pine St. ST. LOUIS

## FOR SALE Used Machinery In Good Condition

### Engines

1 150 H. P. Wheland Twin Engine.  
2 75 H. P. Wheland Engines.  
2 60 H. P. Wheland Engines.  
1 40 H. P. Wheland Heavy-Duty Engine.  
1 20 H. P. Pusey-Jones Vertical Engine.  
1 60 H. P. Haberkorn Engine.  
1 43 H. P. Shepard Vertical Engine.  
1 15 H. P. Engine.  
2 25 H. P. American Blower Engines.  
1 3 H. P. McVicker Gasoline Engine.

### Boilers

2 10 H. P. Lidgerwood Upright Boilers.  
1 20 H. P. Surrey-Parker Upright Boiler.  
1 20 H. P. Upright Boiler.

### Logging Machinery

1 10 H. P. Skidder, complete.  
800 ft. 1 1/2" Roebling Galvanized Iron Cable Clips.

### Saw Mill Machinery

1 32" Wheland Acme Saw Carriage.  
1 Top and Bottom Saw Arbor.  
28 Live Log Rolls with Angle Boxes, Gears and Shafting.  
7 Drykiln Trucks.  
2 Hill "Style C" Steam Dogs.  
1 Shingle Saw.  
35 23" to 72" Used Circular Saws.

### Miscellaneous

1 Baldwin, Tuttle & Bolten No. 151-D 32" Knife Grinder.  
1 2" Forbes Pipe Threading Machine.  
1 lot 16" to 24" C. I. Fittings, Valves, Elbows, Tees and Flanges.

THE CHAMPION FIBRE COMPANY  
Drawer C, Canton, N. C.

## HAMMERS

USED—EXCELLENT CONDITION.

All Items specified hereunder can be shipped immediately from our Philadelphia warehouse:

4—No. 3 "Nazel" Air Hammers, arranged for motor drive.  
1—No. 2 "Nazel" Air Hammer, ar. 4 for motor drive.  
1—No. 4N "Nazel" Air Hammer, arranged for motor drive.

## MACHINE TOOLS

USED.

2—13-in. Gisholt Turret Lathes. Excellent condition.

1—13-in. x 6-ft. Worcester Engine Lathe. Good as new.

1—No. 1 "Landis" Universal Grinder.

1—No. 4 "Cincinnati" Universal Milling Machine.

NEW.

1—High-Grade Universal Cutter and Reamer Grinder.

1—3-Spindle "Kern" Ball-Bearing Drill Press.

1—"Fischer" Profile Grinder.

1—No. 3 "La Salle" Surface Grinder.

1—60-in. High-Grade Rotary Ring and Circle Sander.

10—"Penn" Automatic Slotting Machines, 2-in. stroke.

6—24-in. x 14-ft. Quick-Change Gear Lathes, with 3-step cone and D. B. Gears.

1—Greenard Arbor Press, Wheel Type, page 22 catalog.

1—14-in. Crank Shaper.

### SWIND MACHINERY CO.

1110 Widener Bldg. Philadelphia, Penna.

## CORLISS ENGINE FOR SALE

Hamilton Corliss Engine, 250 H. P., No. 133, cylinder 20"x42", flywheel 12"x33" face. In splendid condition. Engine can be inspected at Baldwin Tool Works Handle Plant, South Richmond, Va. Address

BALDWIN TOOL WORKS, Parkersburg, W. Va.

## WATER TUBE BOILERS

FOR SALE

New and second-hand, high pressure, for immediate shipment. All makes.

J. F. DAVIS

1409 Harris Trust Bldg Chicago, Ill.

## FOR SALE

2—Knowles Duplex Compound Steam Plunger Pumps, 18 1/2"x36x24x36.

HAUBTMAN &amp; LOEB CO., Ltd.

NEW ORLEANS, LA.

## Tampa Machinery Exchange TAMPA, FLA.

Buy, Sell and Exchange Machinery of All Kinds

WRITE US YOUR WANTS



# CHICAGO HOUSE WRECKING CO.

"World's Leading Buyers and Liquidators"

FACTORIES—RAILROADS—COMPLETE PLANTS—ESTATES, ETC.

We now offer the "cream" of America's material and equipment from our latest purchases  
Here are a few items, for quick buyers, from our tremendous stocks

**AVAILABLE AT ONCE FOR IMMEDIATE DELIVERY!!**

## LOCOMOTIVES

85—American and Baldwin, standard gauge, up-to-the-minute locomotives; used less than 5 years. You can get this power now and avoid delay at the builders.

## 20" SPIRAL RIVETED PIPE

100,000 ft. Abendroth and Root 20 in. Spiral riveted pipe; No. 10 gauge steel. 25 ft. lengths complete with Root bolted joint couplings; bends, tees, valves, etc.

## PUMPING ENGINES

2—Horizontal Duplex Tandem Compound Condensing High Duty Pumping Engines. Capacity 3,000,000 gallons per 24 hours.

## DUMP CARS

24—Western and Oliver 12-yd. standard gauge all-steel either-side hand-dump cars.  
20—Western 2-yd. 30" gauge wood body two-side dump cars.  
20—Western 1½-yd. 24" gauge wood body rotary dump cars.  
12—Scoop Box, 18" gauge rotary all-steel dump cars; capacity 12 cu. ft.

## PASSENGER CARS

2—Passenger Coaches, 51 ft. long; 4-wheel trucks.  
2—Passenger Coaches, 56 ft. long; 4-wheel trucks.  
2—Combination Passenger and Baggage Coaches, 56 ft. long; 4-wheel trucks.  
1—Fairbanks Morse Gasoline Power Passenger Coach.

## BOILERS

17—Robb-Mumford horizontal return tubular boilers; 84" diameter, 19' 10" long; 234 H. P., 130 lbs. pressure.  
3—150 H. P. Erie City Horizontal Water Tube Boilers.  
150 lbs. pressure complete with underfeed stoker system.  
1—410 H. P. Kennicott Water Tube Boiler with 38"x30", steel stack with breeching.  
2—350 H. P. Atlas Water Tube Boilers; 150 lbs. pressure.  
2—250 H. P. Sterling Water Tube Boilers; 150 lbs. pressure.  
4—72x18 Horizontal Tubular Boilers; quadruple riveted and butt strapped.  
4—72x18 Horizontal Tubular Boilers; triple riveted and butt strapped.  
4—64x16 Horizontal Tubular Boilers; triple riveted and butt strapped.

## TANKS

7—Oil storage tanks, 95' diameter, 30' high, about 38,000 barrels capacity.  
1—Tower Tank, 400,000 gallon capacity, 100' tower.  
1—Wood Tower Tank, 10,150 gallon capacity 12' diameter, 12' staves.  
1—Triple-riveted, butt-strapped, high-pressure tank, about 5' diameter, 30' long, 7-16 shell.  
6—Rendering Tanks, about 72" dia., 18' long overall, including cone-shaped head.  
12—Storage Tanks, 5' diameter, 7' 5" long, 100 gallon capacity each.  
3—4300 gallon Storage Tanks.  
2—6500 " " "  
2—7500 " " "  
10—8000 " " "  
15—10,000 " " "

## STEAM PUMPS

2—Dean Bros. Duplex Steam Pumps; 14x3x12.  
1—18x10½x10 Worthington Duplex Steam Pumps.  
1—12x8½x12 Brass Fitted Brine Pumps.

## CENTRIFUGAL PUMPS

50—Brand new unused Horizontal Vertical and Centrifugal Pumps; Lawrence Mfg. Co. and Buffalo makes. Sizes from 1" suction and 1½" discharge to 10" suction and 8" discharge.

## BOILER TUBES

10—Carloads of Charcoal Iron Boiler Tubes; all sizes from 2" to 6" diameter. Write for prices, cut to any length.

## GENERATOR SETS

1—105 K. W. A. C. 60-cycle 3-phase 2300-volt generator set, direct connected to 12"x20"x16" Ball engine.  
1—200 K. W. A. C. 60-cycle 3-phase 2300-volt generator set, direct connected to 18"x30"x19" Fleming 4-valve engine.

## STEEL PLATES

100 tons ¾" plates; size 62"x125".  
75 tons 5-16" plates; size 58"x116".  
150 tons ¼" plates; size 62"x125".  
125 tons 3-16" plates; size 58"x116".

## MOTORS

1—Crocker-Wheeler, 200 H. P., 500 R. P. M., 115-volt, 1440-ampere motor.  
17—2 to 35-H. P., 220-volt, 3-phase, 60-cycle motors.  
1—30-H. P., 250-volt, 550-r.p.m. D. C. motor.  
25—5 H. P. Peerless - Crocker - Wheeler Bullock 110-volt D. C. Motors.  
15—7½-H. P. Crocker Wheeler, 110-volt, D. C. Motors.  
6—20-H. P. Western Electric 110-volt D. C. Motors with drum controller.  
11—5, 20, 25 and 30-H. P. Browning, 110-volt D. C. Motors.

## CAST IRON PIPE

65—Lengths 8" Bell and Spigot; ¾" metal.  
100—Lengths 10" Bell and Spigot; ¾" metal.  
20—Lengths 14" Bell and Spigot; ¾" metal.  
8—Lengths 18" Bell and Spigot; 1" metal.  
132—Lengths 20" Bell and Spigot; 1" metal.  
12—Lengths 24" Bell and Spigot; 1¼" metal.  
Write for our complete list of pipe and get our prices always before you buy.

## AIR COMPRESSORS

2—Chicago pneumatic steam-driven air compressors; size 14x16; cap. 400 cu. ft.  
1—Christianson Electric air compressor, capacity 60 cu. ft. per minute.  
1—Chicago pneumatic gasoline air compressor; size 8x6x8; cap. 90 cu. ft.  
2—Steam Duplex Air Compressor, 18x24 steam end; 18x29x24 air end; capacity 2200 cu. ft. free air per minute.  
1—Ingersoll-Rand Duplex steam driven; Imperial type 10; steam end 18x29x24.

## SMOKESTACKS

1—100' — 48" self-supporting steel smokestack; 8' diam. at base.  
1—114' — 72" Self-supporting steel smokestack; 6' diameter at base.  
7200—Sections of double riveted longitudinal seam steel stack; sizes as follows:  
1200—Sections 16" diameter.  
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10,000 Valves, never used. Crane, Kelly, Jones and Chapman valve companies' makes. Gate, globe, angle and foot valves; sizes from 2" to 36".  
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2—Single track spans, 120 ft. and 126 ft. long, Coopers E-45 loading.  
16—Plate Girders—32 in., 68 in., 88 in. and 44 in. high and 52 ft., 72 ft., 80 ft. and 41 ft. long.

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1—30-ton Industrial 8-wheel Locomotive Crane with gooseneck boom.  
1—20-ton O. and S. Locomotive Crane.

## BUCKETS

80—Woods Acme 1½-yd. bottom-dumping all-steel buckets.  
2—Automatic Drag Line Buckets; 1½ yd. capacity.  
5—Automatic Coal Dump Buckets; ½ yd. capacity.  
9—Automatic Coal Dump Buckets; ½ yd. capacity.

## HOISTING ENGINES

2—Olds 42" single-drum close-mining hoists; direct connected to 40-H. P. 4-cylinder automobile-type gasoline engine.  
1—8½x12 double-cylinder, 4-drum Lidgerwood hoisting engine with boiler.  
1—10x12 double-cylinder, triple-drum Floy hoisting engine and boiler with swinging gear.

## STEAM SHOVELS

1—70-ton Bucyrus Steam Shovel.  
1—Thew Steam Shovel; ¾-yd. dipper; two extra buckets and set of spare parts.

## JIB CRANES

Ask for blueprints and details.

2—Steel Jib Cranes; 15' mast, 18' boom.  
2—Steel Jib Cranes; 14' mast, 12' boom.  
1—Steel Jib Crane; 9' 6" mast, 21' 4" boom with trolley and air hoist.

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1—Center Crank Automatic Ames Engine; cylinder 17x16 direct connected to 125-K. W. 125-volt, D. C. generator.

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3—McCully No. 6 Stone Crusher.  
1—Gates No. 3 Gyratory Stone Crusher.  
1—Gates No. 4 Gyratory Stone Crusher.  
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1 200 H. P. Crocker-Wheeler, 440 volts, 600 R. P. M.  
 1 150 H. P. General Electric New Motor, form "M" slip ring, 550-volt, 720 R. P. M.  
 125 H. P. General Electric, form "L," 550 volts, 720 R. P. M.  
 2 100 H. P. Allis-Chalmers, 220 volts, 1200 R. P. M.  
 40 H. P. General Electric, New, 220 volts, 900 R. P. M.  
 35 H. P. General Electric, form "K," 220 volts, 1200 R. P. M.  
 35 H. P. General Electric, form "K," 440 volts, 900 R. P. M.  
 15 H. P. Crocker-Wheeler, 220 volts, 1700 R. P. M.

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 750-lb. Toledo Rope Drop.  
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 40-lb. Bradley Cushioned Helve.  
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### PLATE PLANER

10' Dunkirk.

### MILLING MACHINES

No. 4B Brown & Sharpe Plain.  
 No. 4 Brown & Sharpe Plain.  
 No. 4 Cincinnati Plain.  
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 No. 2 Cincinnati Universal.  
 No. 2 Cincinnati Plain.  
 New No. 1½ American Improved Plain.  
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 No. 1 Pratt & Whitney Plain.  
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6' Niles-Bement-Pond Plain, heavy duty, tapping attachment, motor driven (2).  
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New York

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30-inch Berlin Double Surfer, No. 177.  
 Hermance 8-foot Door and Sash Clamp.  
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 Wood and Iron Pulleys, Shafting, Leather Belting. All in good condition. Cheap.  
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## Metal Working Machinery

PUNCHES AND SHEARS  
 POWER PRESSES

1 No. 17-D "Doty" Comb. Punch and Shear.  
 1 Double-End "Industrial" Punch and Shear.  
 1 12" "Rock River" Single-End Punch or Shear.  
 1 "L. S. Posselt" Gate Shear, geared.  
 1 No. 1 "Little Giant" Lever Punch or Shear.  
 2 22" "Peck, Stow & Wilcox" Foot-Power Squaring Shears.  
 1 36" "Nagara" Foot-Power Shearing Shear.

## ENGINE LATHES

3 24"x14" "Maine" Q. C. G.  
 6 24"x12" "Hamilton" Q. C. F.  
 1 24"x12" "Schumacher & Boye."  
 1 20"x10" 6" "Rahn Meyer-Carpenter."  
 1 20"x8" 8" "Davis & Egan."  
 1 18"x10" "Flather" Q. C. G.  
 4 18"x8" "Milwaukee."  
 1 18"x8" "Superior" Q. C. G.  
 1 17"x10" "Greaves & Klusman."  
 1 17"x10" "Rahn Meyer-Carpenter."  
 1 17"x8" "Springfield" Q. C. F.  
 1 16"x8½" "Hamilton" Q. C. G.  
 1 16"x8" 3" "Conover & Overcamp."  
 1 14"x6" "Champion" taper attachment.  
 1 14"x6" "LeBlond" Q. C. G.  
 1 14"x6" "Lodge & Shipley" Q. C. G.  
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 New "South Bend" Lathes, 13 to 18".

Other Metal Working Machines, Woodworking Machinery, Steam and Electric Power Equipment—large assortment and variety.

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**Stationary Boilers:** 200 H. P. H. & W. water-tube; 78x20; 72x18; 66x16; 2 60x14; all high pressure. Following for 100 lbs.: 2 72x16; 66x16; 54x14; 48x14; 44x12.

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**Corliss Engines:** 25x48 Hamilton, heavy duty; 20x32 Webster, Camp & Lane; 16x36 Hamilton; 14x24 Allis-Chalmers, heavy duty, high speed; 12x30 Hamilton.

**Automatic Engines:** 19x18 Ball; 14x18 Buckeye; 10x16½ Buffalo Forge tandem compound; 13x12 Harrisburg; 10x16 Brownell; 9 3/16x12 Ball; 8½x14 Noyes; 5x6 Harrisburg.

**Throttling Engines:** 16x18 H. S. & G.; 14x21 Lane & Bodley; 14x18 Skinner; 11x14 and 10x12 Chandler & Taylor; New 9x12, 5½x14 Brownell; New 6x8, 6x6 vertical; 5x6 Industrial.

**Gas and Gasoline Engines:** 50 H. P. Nash; 20 H. P. Calahan; 6 H. P. Fairbanks-Morse; 6 H. P. Foss; 4 H. P. New St. Mary's heavy oil; 3 to 4 H. P. Watkins.

**Generators and Motors:** For alternating current, 3 phase, 60 cycles: 175 K. W. Westinghouse at 900 R. P. M., 2200 volts; 160 K. W. Western Electric generator at 600 R. P. M. and 6600 volts; 85 K. W. Allis-Chalmers single-phase generator at 900 R. P. M. and 2200 volts; 75 K. W. Fort Wayne generator, 480 volts, direct connected to 13x13 Russell engine; 75 K. W. Westinghouse generator at 720 R. P. M. and 2200 volts; new 25, 10, 7½ and 5 H. P. General Electric, type K. T., 220 volts motors. For direct current: 1 60 K. W. Jantz & Leisl generator, 250 volts, at 600 R. P. M.; 25 K. W., 125 volts; C. & C. Electric Co. generator, D. C. Ridgway Engine.

**Lathes:** 14 in. x 6 ft. Flather; 16 in. x 4 ft. Lodge & Shipley, quick-change gear; 16 in. x 6 ft. Flather; 16 in. x 4 ft. 9 in. Sebastian; 16 in. x 6 ft. Reed; 16 in. x 6 ft. Barker; 16 in. x 8 ft. Gray; 18 in. x 10 ft. Bradford, with taper attachment; 18 in. x 12 ft. Greaves-Klusman double lathe with two head stocks and two tail stocks; 21 in. x 10½ ft. Imperial; 21 in. x 12½ ft. Ohio; 24 in. x 9 ft. Pratt & Whitney; 24 in. x 10 ft. Mueller; 24 in. x 12 ft. Lodge & Davis.

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Sole manufacturers of the "Leader" Injector and Ejector.

Ask for circular.

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WRITE WHAT YOU WANT

2—150 H. P. Direct & Alternating Motors.  
 3—100 " " " "  
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 6—40 " " " "  
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 5—25 " " " "  
 10—20 " " " "  
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QUICK ACTION—SPOT CASH PAID  
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Largest Dealers in America

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200 horse-power vertical four-cylinder gas producer engine, speed 235. This engine is in good condition and is only being sold on account of a change in operating conditions.

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STRUCTURAL MATERIALS, RELAYING RAILS  
*Plants Bought, Sold and Dismantled*  
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- 2 65-ton Bucyrus Shovels, S. G., 2½-yd. dipper.
- 2 Lidgerwood Hoisters, 14"x18", D. C., 3-drum, like new.
- Several Compressors, new and second-hand Machinery, Pipe, etc., for contractors, mills, mines, etc.

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Philadelphia, Pa.

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40-ton standard-gauge Locomotive, passenger type.  
25-ton Manhattan-type Locomotive, standard gauge.  
10x12 Ball center-crank automatic Engine.  
12x12 Arlington & Sims center-crank automatic Engine.  
Many bargains in Engines and Boilers.  
**CHAS. A. McLEAN** Norfolk, Va.

**LACKAWANNA STEEL SHEET PILING, RAILS, LIGHT AND HEAVY SECTIONS. STRUCTURAL SHAPES.**

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Hoisting Engines, Boilers, Derricks, Pumps, Concrete Mixers and Trough, Hoisting Crabs, Feed Water Heaters, Riveting Hammers, Air Compressors and Receivers, Plug Drills, Steel Drill Machines, Pneumatic Stone Carver's Tools, Motors, Blacksmith's Tools.

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Steel Hull, 225' long. 20" Morris Pump. New Heine W. T. Boilers just installed. Triple Exp. Engine. Wheeler Condenser. Complete equipment of engines, pumps, tanks, machine shop, electric plant, etc. Living quarters. Quick buyer gets a bargain.

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- 15,000 pounds Steel for channeling machine, in lengths 2½' to 12'. Will sell way below market to close out.

Write for complete list of our offerings.

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## HOISTING ENGINES

1 Lidgerwood, 7x10, with boiler, D.D. D. C. with swinger.

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Number of air compressors, sizes from 150 cu. ft. to 1100 cu. ft.

Plants bought and dismantled.

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### FOR SALE REBUILT LOCOMOTIVES

2 Baldwin 20x24" Consolidation, 44" wheel centers, 60" boiler, 165 lbs. steam pressure, with factor safety of over 4; 14" rigid wheel base; weight, exclusive of tender, 62½ tons; on drivers, 54½ tons; over 4000-gal. tank.

1 Pittsburgh 19x24" Ten-wheeler, 44" centers, 58" boiler, 160 lbs. steam pressure, with 4.75 factor safety; weight, exclusive of tender, 56 tons; on drivers, 46 tons; 4500-gal. tank.

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1—55 ft.—250,000 Capacity—Flat.

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All in first-class condition.

Prompt Shipment.

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With elevator, also complete crushing outfit for road building, including boiler and engine, drills, bins, steel, rails, derrick, boxes, centrifugal pump and other small tools. One 25-ton steel Gallon Unloader, almost new. Two 7-ton Sterling Dump Body Trucks. Chas. E. Redington, 127 W. First St., Greensburg, Ind.

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8-ton Kelley-Springfield Tandem Road Roller. Good as new.

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45 Bucyrus 1½-yard Dipper.

70-C Bucyrus 2½-yard Dipper.

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Chestnut Poles for electric light, railway and telephone lines. Also Hardwood Lumber.

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We have 4 Gen. Elec. Gas Elec. Power Cars, seat 90 persons; same as new. Cost \$32,500. Can be bought for \$20,000.

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### CHICAGO CONCRETE MIXER FOR SALE

Size 23, with Fairbanks-Morse Upright Engine, 9 H. P., 350 revolutions. Mixer is now working at No. 119 Madison Ave., Memphis, Tenn.

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1 Thew Steam Shovel, full revolving, extra heavy, for digging rock; rebuilt and in fine condition. Price, \$4200.  
2 Erie Steam Shovels 2 Trench Excavators 1½ cu. yd. Cable 10 to 30-ton Locomotive motive Cranes  
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We Have a Ready Market for Good Equipment. Have You Any to Sell?

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15-18-T-Browning, 8-W. Right from Shops. Repaired. 15-T-Browning, 4-W.

Headquarters For Cranes.

Cranes Wanted: Spot Cash Paid.

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**VULCAN STEAM SHOVEL**  
Little Giant Traction, 1-yd. dipper.

**TRENCH EXCAVATOR**  
Model "K" Parsons, for shallow sewers or water trench work.

**CABLEWAYS**  
1 400-ft. Lidgerwood Cableway.  
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85' All Steel-Dragline. Mounted on Wheels. Condition Guaranteed Good.

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Standard Gauge 6-yd., 2-way K. & J., Steel lined floors, located in Virginia.

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At a bargain. Three 36-inch-gauge Brooks Mogul Logging Locomotives, 2½ tons each.

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One White Truck, 5 tons capacity, iron wheels, self-dump. One J. I. Case Steam Tractor, Engine and Boiler, 60 H. P. One J. I. Case Gas Tractor, 20 H. P. One Fairbanks Scale. One Ingersoll-Rand Steam Drill. Four Eagle Dump Wagons. Four 2-wheeled Scrapers.

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25 Passenger Cars on hand, all duplicates, ready for immediate service, seating capacity sixty people. As straight today as when first built. WRITE or WIRE US FOR PRICE AND TERMS.

**Georgia Car & Locomotive Company**  
ATLANTA, GEORGIA

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### A.S.C.E. Sections with angles

200 tons 55-lb. New.  
2500 tons 70-lb. New.  
400 tons 95-lb. New.  
550 tons 40-lb. Relaying.  
1500 tons 50-lb. Relaying.  
250 tons 65-lb. Relaying.

Also other weights.

### Cars—

5 34-ft. 80,000 Cap. wood underframe, flats.  
2 28-ft. 80,000 Cap. hopper-bottom Gondolas.  
28 19-ft. 20,000 Cap. all-steel hopper-bottom Gondolas, 24-inch gauge.  
50 36-ft. 60,000 Cap. Box Cars. Very fine.

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1 28-ton Shay Geared. } All in first-class condition.  
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124 pcs. 10-ft. Lackawanna, 12½"x¾".  
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225 pcs. 25-ft. Lackawanna, 14"x¾".  
585 pcs. 20-ft. United States, 12"x¾".  
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Prompt shipment.

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1 Chicago Pneumatic Duplex, steam, 2 stage, 314 cu. ft. capacity, 100 lbs. pressure, with air receiver. Like New.

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**WILLIS SHAW**

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19"x14" STANDARD GAU. SWITCHER  
Ready for Delivery  
**CARS RAILS**  
Largest Stock Locomotives in United States  
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Brand new, 30' boom, ¾-yard C. S. bucket. Ohio boiler, outriggers, rail clamps, cut steel gears.

Immediate Shipment.

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500 tons 35's; quick shipment.  
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2 miles 20-lb. portable 24" gauge Track.  
2 Locomotives, 24" gauge.  
1 direct-current Generating Unit.  
3300 ft. 1-inch Transmission Pile Steel Rope.  
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5 Maney Scrapers, 1-yd.  
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1 Portable Case 20 H. P. Engine.  
1 National Elevating Grader.  
1 Ransome Paving Mixer, 9 cu. ft.  
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6 Troy reversible 4-yd. Spreaders.  
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10 No. 2½ Western Wheeled Scrapers; in good repair for quick delivery.

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## A. S. C. E. Sections LIGHT STEEL RAILS

PROMPT DELIVERY.  
8, 12, 16, 20, 25, 30, 35, 40 pounds per yard.  
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Manufacturers, Cumberland, Md.  
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200 tons 20 and 25-lb. Relayers.  
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Marion Model No. 20 K. R. Steam Shovel.  
One Buffalo 5-ton Tandem Road Roller.  
One Kelly 10-ton 3-wheel Road Roller.  
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Compressors, Drills, Crushers, Engines, etc.  
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## 85-lb.

## A.S.C.E. RELAYERS

16,000 tons, with Angle Bars to match. Available immediate shipment and centrally located. We positively own these Rails and offer same in carload lots and over.  
25,000 tons Relayers, sizes 25-lb. to 100-lb., in stock our Pittsburgh yards and vicinity. Immediate shipment guaranteed and prices very attractive.  
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Rails cut to length for structural purposes.  
Frogs, Switches, Bolts, Nuts, Spikes and all accessories.

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Park Building PITTSBURGH, PA

Locomotives, Steam Shovels, Locomotive Cranes, Cars,  
New and Relaying Rails

## WE HAVE FOR SALE

40 Standard and 36" gauge modern direct-connected Locomotives in all types and weights from 8 to 75 tons.  
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3000 tons Relaying Rails, all sizes, on our Birmingham yards.  
300 tons 30-lb. and 35-lb. Relaying Rails, located in East Texas.

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COMMERCIAL TRUST BUILDING  
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IRON AND STEEL AND

RAILWAY EQUIPMENT

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10,000 tons of first-class Relaying Rails suitable for export.  
Also, a large tonnage of 30 to 75-lb. Relaying Rails, with angle bars, for domestic use. Available for prompt shipment.

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We have a complete line of high-grade equipment, including

LOCOMOTIVES.

Dump Cars. Spreader Cars.

STEAM SHOVELS.

Drag Lines. Locomotive Cranes.

PASSENGER AND FREIGHT CARS.

Please send us your inquiries. It will pay you to do so.

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CINCINNATI, O.

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Low Prices on New FROGS and SWITCHES.

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One 30-ton Forney Type Baldwin Standard-gauge Locomotive, completely overhauled, having new set of tires throughout as well as many other new parts. In best of operating condition. Ready to work without further expense. Seven good stationary boilers, 60"x18"; good for 100 lbs. working pressure under Hartford inspection.

Iron parts, only for five complete standard-gauge, logging cars, 60,000 lbs. capacity.

One 12-H. P. vertical Fairbanks Morse & Co. Gasoline Engine; good as new; used about 60 days.

One 6" centrifugal Fairbanks Morse & Co. pump. For further particulars, write

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Manufacturers Light Steel Rails

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We are also dealers in Relaying Rails.  
All Sizes.

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5000 tons Relayers, sizes 20 to 40-lb.

Southern Delivery.

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Bucyrus 70-ton Shovel, overhauled.  
18"x24" Mogul, good as new.  
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Wilbraham Rotary, 24" suction, 24" discharge, direct connected to Wilbraham engine.

Morris Centrifugal, 14" suction, 12" discharge, direct connected to Morris engine. Several belt-driven Centrifugal, also Single and Duplex Steam Pumps.

Cheap Prior to Removal

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I buy and sell all sections and have relayers located in different parts of the country.

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**HENRY LEVIS & COMPANY,**

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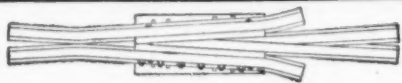
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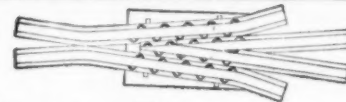
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Portable and Industrial Track  
**THE CINCINNATI FROG & SWITCH CO.**  
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(3)

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Manufacturers of

**FROGS, SWITCHES, CROSSINGS, Etc.****NEW STEEL RAILS, STEEL TIES**

12 lbs. to 60 lbs. per yard

Concrete Bars, Rounds, Squares, and Twisted Squares  
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RAILS—New and Relaying—Frogs—Switches

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Southern Sales Managers

Continental Bldg.  
Baltimore, Md.Machinery, Scrap and  
Rail Yards, Baltimore**FOR SALE**

Ten-ton three-wheel Roller, cheap.

**McCORMICK & SON**Care Manufacturers Record  
BALTIMORE, MD.**Tandem Roller Bargains**

One 6-ton—Almost new

One 10-ton—Overhauled

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**STEEL BUILDING**

For immediate delivery, practically new, 92 ft. x 118 ft. Price and B/P on application.

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Complete equipment of Sand Lime Brick Plant, consisting of engines, boilers, drying cylinders, brick presses, cars, crushers, tube mills, sand dryers, elevators and conveyors.

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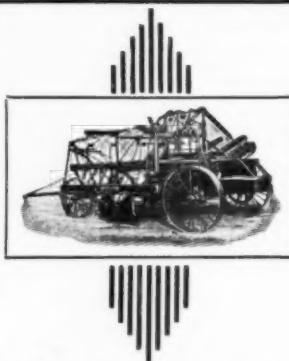
We have prepared an eight (8) page list of the above equipment. There are over 1200 big bargains. If you contemplate buying any machinery at this time, you may secure prompt delivery and a material saving in cost by sending for the list.

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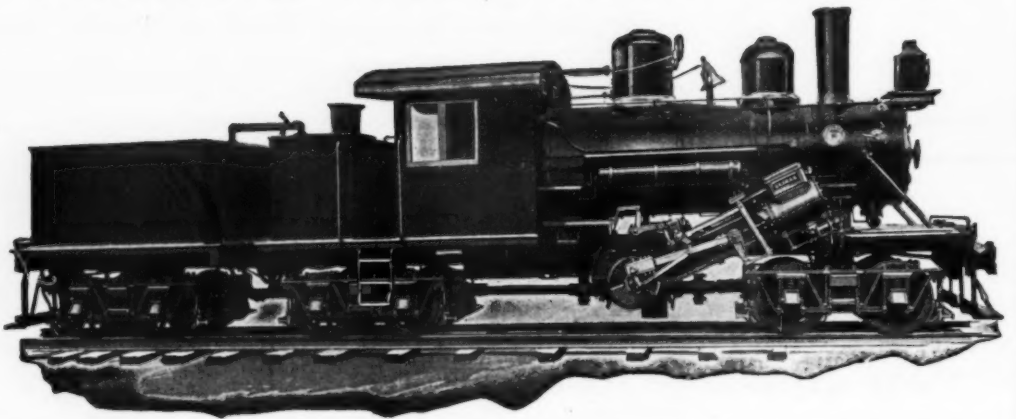
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Write for  
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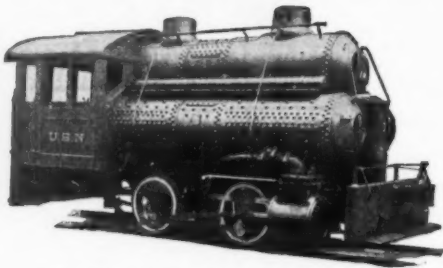
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Two-Stage Air, for long haul, outside work.

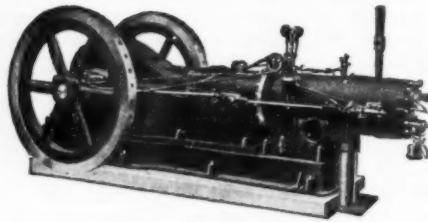
Steam Locomotives—3 to 100 tons—Narrow and Wide Gauges.  
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## Pair of National 3VS Air Compressors,

motor driven, automatic control, installed in the HUDSON MOTOR CAR CO. garage at 315 West 68th St., New York. Used for inflation of tires, cleaning cars and general garage work; also for forcing oil and gasoline from fire proof tanks in basement through pipes to faucets on all floors. NATIONAL Compressors are making good with hundreds of pleased customers. Publication No. 401.

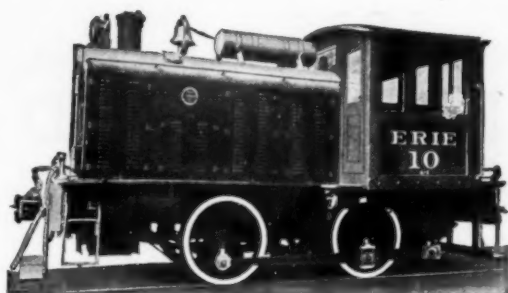
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Gasoline locomotives of this weight and type are specially suitable for light work in railway yards and industrial plants. BALDWIN experience, built into them, is a guarantee of their success.

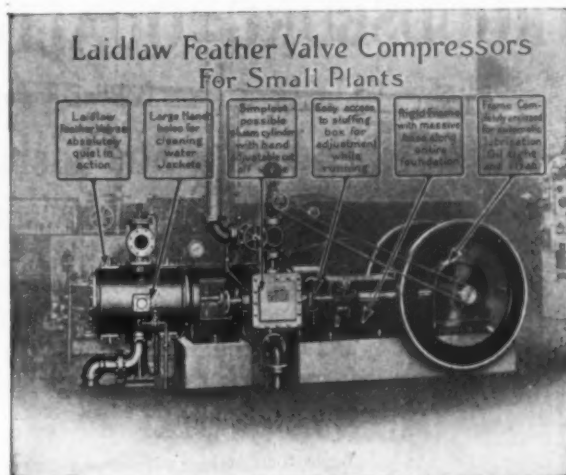
Investigate the BALDWIN line. Full particulars will be gladly furnished on request.

## The Baldwin Locomotive Works PHILADELPHIA, PA., U. S. A.

Cable Address, "BALDWIN PHILADELPHIA"

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Drop-forged connecting rods, with wedge adjustable bearings.

Three-part removable main frame bearing (Quarter Box Type).

Intermediate head in frame guide, permitting cylinder stuffing-box adjustment while in operation and preventing leakage of crank oil into cylinder.

Noiseless Feather Air Valves, of identical construction with those used on the **Larger** machine.

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## ARE YOU READY for SUMMER?

Equip your wells with  
the

## Sullivan Air Lift

and insure more  
**Cooler and Purer water**  
for ice-making or  
power supply.

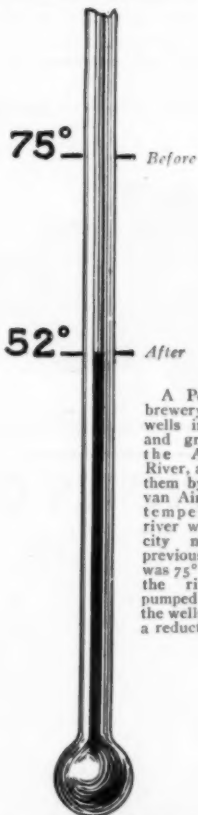
The saving in horse-  
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worth the expense  
necessary.

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A Pennsylvania brewery sank three wells in the sand and gravel along the Allegheny River, and pumped them by the Sullivan Air Lift. The temperature of river water in the city mains (the previous source) was 75° F.; that of the river water pumped through the wells, 52° F., or a reduction of 23°.

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We Standardized the 125 Lbs. Pressure Hoisting Engine

You Can Depend on a Stroudsburg



When you put a Stroudsburg Hoisting Engine on the job, you can feel certain that the job will be done faster and without the usual "breakdown" and "tie-up" for repairs, necessary with many other Engines.

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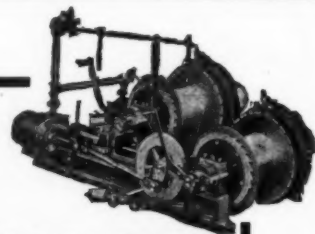
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Built for every purpose

The  
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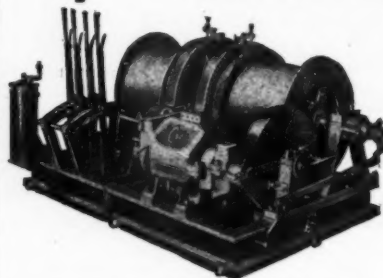
The fact that we have built over 38,000 hoists, practically three a day, is proof that Contractors have found Lidgerwood quality more than a name.

Our catalogue describes types of hoists developed for every service.

Electric Hoists built in any size. Steam up to 1000 H. P.

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TO  
**1917**

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Piston Air Drills equipped with Corliss Valves, Roller Bearings, Telescopic Screw Feed and one-piece Connecting Rods; Long Stroke Riveting Hammers made from one solid piece—can't come loose; Chipping Hammers with a single valve of the latest design.

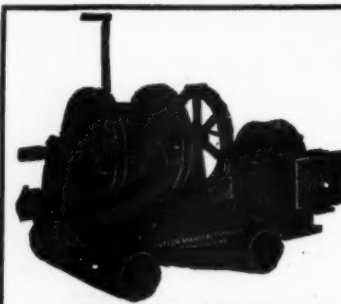
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Driven by Electric-Motor, Gasoline  
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Single and Double Drum Hoists

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Will make your job a profitable one  
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Steam Shovels Dredges Ballast Unloaders  
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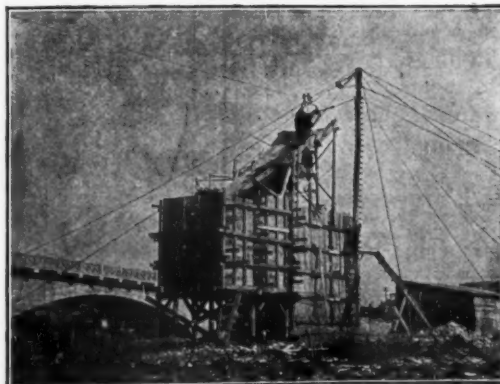


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Is used by a progressive concrete bridge builder. It digs his gravel from the river near the bridge, washes and screens it, and stores it in the bins, from which it goes to the mixer without a bit of expensive hand labor.

**ONE ENGINEER  
RUNS IT**

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Dipper Capacities from  $\frac{5}{8}$  to 2 cu. yds.  
**STEAM, ELECTRIC or GASOLINE**  
There is a THEW for YOU.

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The BAY CITY WALKING DREDGE spans the ditch and will operate over rough, marshy, soft or slippery ground. No tracks or planking. No skids. No trackmen. Minimum labor trouble and costs. Operated by oil engine.

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Investigate the Possibilities of the

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Auto-Crane**  
FOR SHIPBUILDING  
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Crane can be equipped with either Road Wheels or Rail Trucks as desired.

For use with Clam Shell or Orange Peel Bucket or as a Derrick.

**Steam, Gasoline  
or Electric**

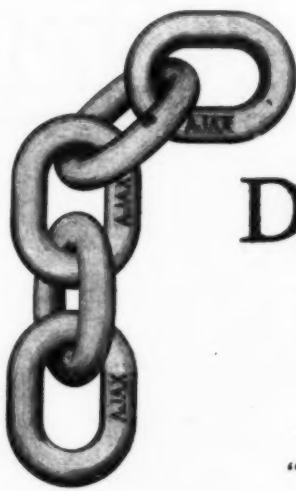
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**THE JOHN F. BYERS MACHINE CO.**

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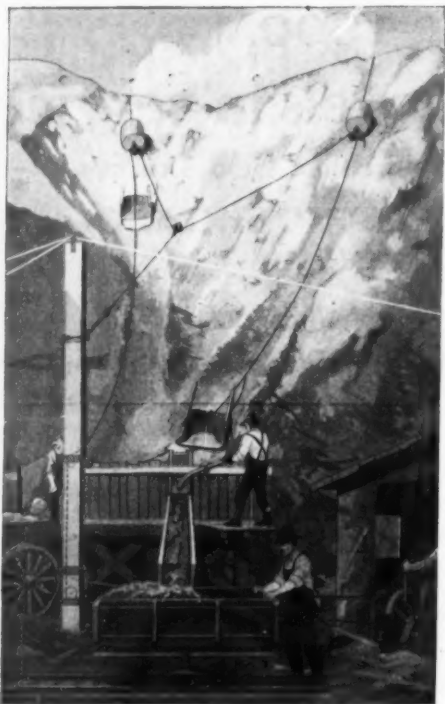
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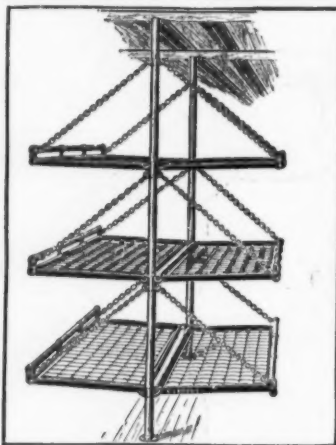
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The Ideal Sand and Gravel Excavator is designed to displace expensive labor in excavating material from sand and gravel banks, and conveying it to the discharging point. With this equipment everyone operating a pit can greatly reduce the cost of excavating the sand or gravel, and the expense of getting it to the screen. Write today and get complete details and prices of this efficient, money-saving outfit.

**IDEAL ENGINE COMPANY**

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Romelink Bunk No. 2—Open View

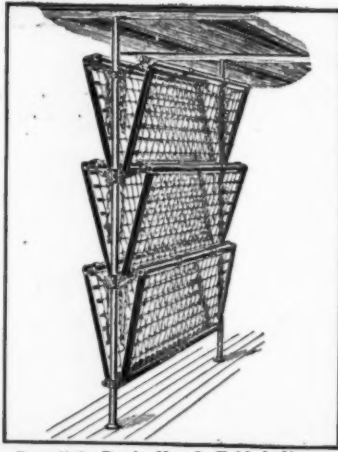
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Romelink Bunk No. 2—Folded View

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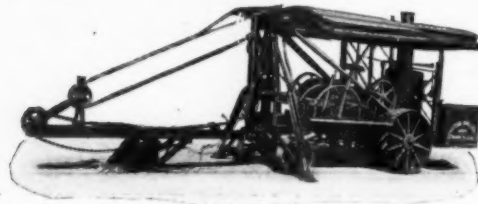
Made of best grade steel and malleable iron—they will not burn; do not collect dust and are easily cleaned. Cost less in the long run than old-style wooden bunks. Equip your entire outfit with

## KEYSTONE

Road Grader  
Bank Dipper  
Ditcher  
Cellar Digger  
Back Filler

5  
in  
1

Don't buy 40 tons of equipment if one **Keystone** 10-ton Traction Shovel will take care of all your work.



**T**HE machine is sturdily built and will stand up to hard digging in cemented gravel or old macadam. It is unusually light and will move about rapidly on its own power without danger of going through country bridges and culverts. Skimmer and Dipper Scoops hold one-half yard. Loads 1½-yard wagon in 1½ minutes. Average daily output 250 to 400 cubic yards. Has dragline ditcher scoop for trenches, cellar digging, back-filling, etc. Ditching capacity 150 to 300 cu. yds. per day. Excavates to a depth of 20 ft.

The eleven-foot horizontal crowding movement and powerful crowding thrust make it more efficient than other machines for shallow grading in hard material.

Saves you money in first cost, operating and moving charge and upkeep.

Write nearest office for catalog, prices and list of nearby owners.

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We Manufacture Also

**KEYSTONE Well Drilling Machines**  
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## Hayward Buckets



## Have Pit-Digging Down "Pat"

Pit-digging is an exact science with a Hayward Bucket. You **know** before the bucket drops just how much it is going to pick up—every bit of its rated capacity and then some. Loads right up to the power wheel and discharges right down to the last grain.

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**Agasco** Road Binder  
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FOR a good and cheap pavement on residence streets and suburban highways it has no superior. Holds road mass together, producing a smooth, resilient and dustless pavement.

AGASCO PAVING PITCH—cushion filler for block pavements, stone, brick or wood. Sanitary, waterproof, resilient.

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The American Clay Machinery Co.  
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produces day shift results from the night shift.

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These lights are independent portable units, easily moved anywhere on the job. No connections necessary. No attention required. They are understood by an ordinary laborer.

They require only water and ordinary lump carbide, which is obtainable everywhere without delay and at low cost.

Lights stocked in principal cities.

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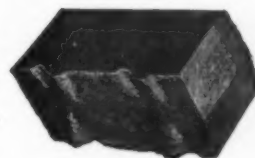
THE ALEXANDER MILBURN CO.

BALTIMORE

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PAVE WITH

## WIRE-CUT LUG BRICK



Smooth

Permanent

No Maintenance

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## BECAUSE

Vitrified Brick pavements possess enormous SLAB STRENGTH, which the increasing weight of trucks makes necessary. They have stood the test of storm at Galveston and floods in many sections.

Let us tell you what Brick Pavements have done.

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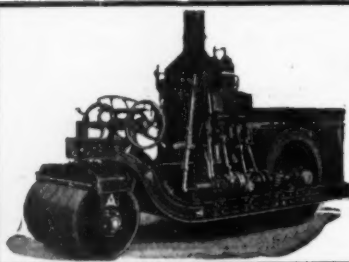
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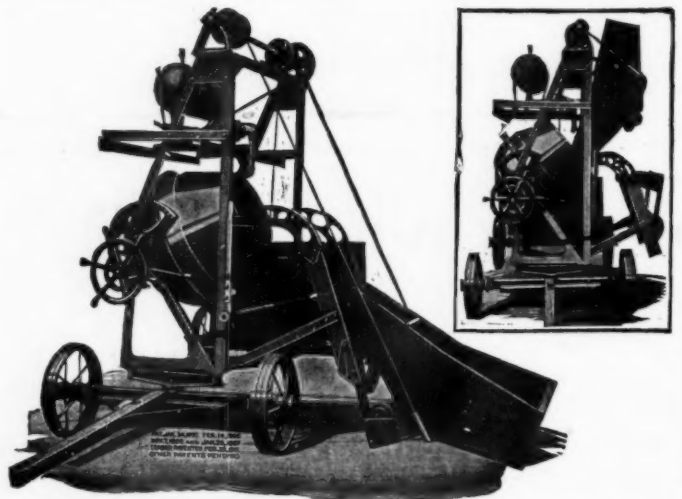
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WITH

## Folding Track Loaders

Built in capacities of 5 to 6, 7 to 8 and 10 to 11 cubic ft. per batch

Before buying any mixer, investigate the advantages the new models of the WONDER give in Quality, Economy and Actual Money Earning Capacity. The new Folding Track Loader is only one of many superiorities that make the difference between a permanent dividend paying investment and a yearly "junk" proposition. This is why many nationally known engineering firms use from 20 to 50 WONDERS each. Let us put you in touch with them.

Agents wanted in unoccupied territory.

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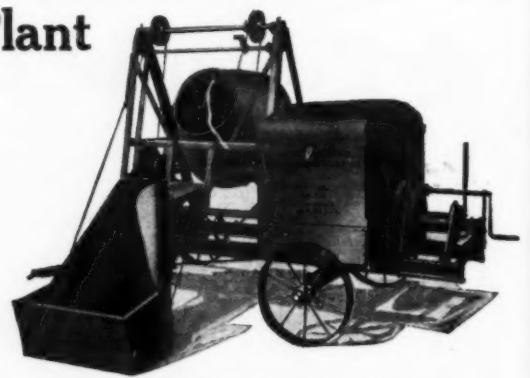


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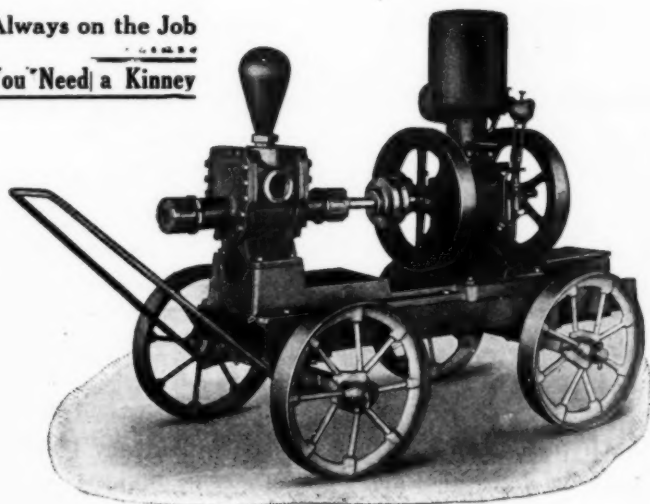
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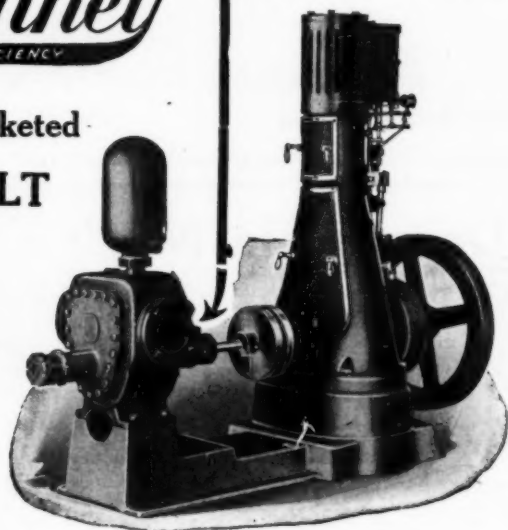
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The Kinney line for road builders, contractors and municipalities. Also includes Demountable Equipment for Motor Truck, Oiling Tanks, Combination Auto Heaters and Distributors, Sprayers and other modern equipment for handling and applying bituminous materials.

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Three Separate Units on Wheels

"We are turning out 1000 square yards of finished pavement (2" top and 1" binder) per day with your 1250-yard plant. No trouble of any kind."

We have hundreds of letters from Cummer users, and they all say "We are satisfied. Find out about the 'Cummer way.'"

**3** sizes—750, 1250 and 1800 square yards 2" sheet asphalt and much more Binder, Topeka Mix or Macadam, daily guaranteed.

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**THE Martin**  
DITCHER & GRADER CO. REGISTERED

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10 Days' Free Trial



This County  
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The Martin is the most practical all-round road machine.

It grades, ditches and terraces.

The reasonable price of this implement makes one possible for each road district instead of one machine for four or five districts, as is the case where the expensive wheel scraper is used.

Write for catalog and prices.

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Box 664, Owensboro, Ky.

Gentlemen:—We bought of the Vian Hardware Co. of this city twenty Martin Ditchers and Graders, and find them to be a very successful road machine.

We recommend these machines to any county or city for road or street work, as they are very economical and can be operated with one-half the expense of the ordinary wheel grader, and we feel that no board of commissioners would make a mistake by considering the Martin for that class of work. If you need any further reference, write us.

(Signed) R. L. HORN,  
County Road Com'r, Vian,  
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For Manufacturers, Investors, Merchants, Farmers and Homeseekers

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Excellent Passenger and Freight Service Offers Splendid Locations for Truck, Fruit, Stock and General Farming. Many Available Manufacturing Sites in Advantageous Localities.

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Equable climate, good schools, reasonable labor, low freight and passenger rates, splendid transportation facilities.

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THE WESTERN RAILWAY OF ALABAMA

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Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities.

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All purchasing for the Southern Military Department is done at Fort Sam Houston, San Antonio, the largest post in the United States.

A Khaki mill should prove profitable. We offer free site, lowest electric power rate in the State, and four railroads at your shipping platform.

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## Attractive Factory Sites ON THE Illinois Central Railroad

For full particulars address the undersigned.

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No section of the country offers today a greater opportunity for profitable investment than Mississippi and Louisiana.

In this section of the South farming operations may be conducted the year round.

The proven results which have been attained by those Northern and Western farmers who have located on these lands and engaged in general farming, live stock raising and dairy farming, all testify to the great possibilities in this section.

Write for pamphlets on Mississippi and Louisiana, addressing

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## Dairying in North Carolina

The country through which this railway runs is particularly adaptable for dairy farming. Dairy experts, men that have traveled in all the great dairying sections of the country, declare that nowhere in the land could the dairy and cattle industry be made pay a better profit.

Shipping facilities excellent. Climate is ideal.

In fact, this section offers every inducement to the man that wants to get in a good, profitable business and is looking for a location for his family that offers a healthful climate and other advantages.

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## Locate in a Growing Town HOPEWELL

"The City of Phenomenal Growth"  
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Offers you many advantageous sites. Attractive rail and water rates. Abundant Labor. A health record second to none in the State. Your business will flourish in Hopewell.

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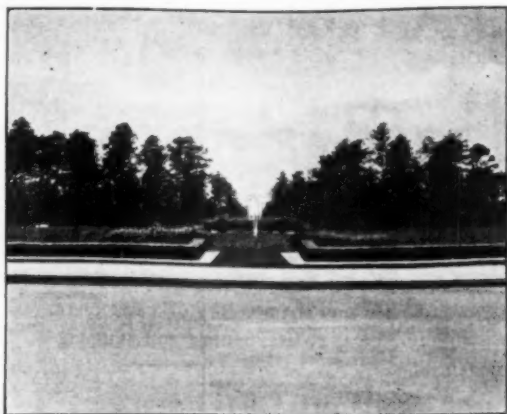
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Grow with us—write today and find out all the advantages Brevard offers.

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BREVARD, N. C.





### North Charleston

Is delightfully situated on the Cooper River near Charleston, S. C.

Note the ideal home sites amongst the pines.

NORTH CHARLESTON is being rapidly improved, and the location is admirable for FACTORIES, and the HOUSING OF ITS EMPLOYEES.

STREET CAR SERVICE, ALSO CHEAP ELECTRIC LIGHT AND POWER FOR BOTH RESIDENTIAL AND COMMERCIAL PURPOSES.

Has a water front of several miles with a depth of 30 feet for docks and a channel of the same depth to the sea 14 miles away.

It has all of its RAILROAD CONNECTIONS arranged in an ideal manner for handling material economically and with dispatch.

It has THREE LINES OF RAILROAD, THE ATLANTIC COAST LINE, SEABOARD AIR LINE AND THE SOUTHERN, in addition to its ideal water shipping facilities.

For full particulars address

**North Charleston Corporation**  
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To the

## MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

### Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

**J. M. MALLORY, Industrial Agent**  
SAVANNAH, GEORGIA

# Southern Railway System Development Service



The Southern Railway System and Associated Lines (Mobile & Ohio Railroad, Southern Railway in Mississippi and Georgia Southern & Florida Railway), through their Development Service will give every possible co-operation and assistance to manufacturers who desire factory locations in the South and to operators who wish to develop coal, iron, marble, granite, clay or other mines and quarries.

## Lime Stone Plant for Sale

The owners of an idle plant, fully equipped to crush limestone, offer it for sale. The operation of the plant was abandoned because of lack of working capital. It has concrete foundation throughout and all necessary machinery, wagon road under storage bins and 980 feet of side track. There are 39 acres in property, 35 of solid limestone of extra high grade. The location is within 40 miles of a main line of the Southern Railway System. If interested, write referring to File No. 38294.

## Woodworking Plant Location

An exceptional opportunity is open at good point in Tennessee, on the Southern Railway System, for a large concern to manufacture furniture cores, veneer stock or make other woodwork. Many saw-mills located on the Southern Railway System lines within 50 miles of the location are looking for a market for lumber not in demand for long distance shipping. All necessary raw material can be obtained at low cost. Vacant ground for plant can be leased at small rental. Refer to File No. 58,330.

**M. V. RICHARDS, Commissioner**  
Room 52, Southern Railway System  
Washington, D. C.



AM BUT A RAILROAD, and I was projected by men of vision who could see prosperous farms, where stood but boundless and trackless forests, undrained swamps, and endless prairie; who could see great and thriving cities, countless industries, and the homes of prosperous millions where others could only see the lonely pioneer, privations and the comfortless solitude; who could see the needs of future generations and the ability of forests, quarries, mines, groves, and farms and ranges yet untouched to fill these requirements, given but transportation facilities; who could see great seaports, harnessed water-power, and the necessity of a systematic national development where there appeared to those of less prophetic vision mud flats, swift running and unnavigable streams, and no need of preparedness for unborn generations or contingencies.

¶ Such was my conception.

¶ Given birth not to meet existing needs and requirements, but as a child of service, it was and is but appropriate that I should be called "The Progressive Railway of the South."

¶ The trials and difficulties met with by me from birth to manhood is the history of strong, fearless and faithful men, masters of creative and initiative ability, magnetic leaders with unbounded faith in the latent possibilities of the territory I was designed to serve, and in their ability to impart the vision of my projectors and their visions to the men of courage and business acumen who have come and settled along the course of my way in the Southland, and to countless thousands more who are capable of recognizing the limitless opportunities that here await but brain, brawn and capital, and offer fortune as reward for faith, industry and ability.

¶ Even in times of darkness, when the uninformed and insincere were loosing destructive thoughts in the land, and honest but deluded men were forcing into effect hampering regulations and were retarding the ability of railroads throughout the land to finance and expand, those who guide my destiny did not lose faith in mankind nor in the inevitable future greatness of the territory I serve.

¶ Though I am of steel, wood, iron and material things, I am governed, managed and directed by men—men who have a human contract with the world, and a knowledge of the wishes, desires and problems of those I serve.

¶ It is but natural, therefore, that I should have a policy by which all who serve with me are actuated, and as my existence and present and future greatness have depended and do depend upon the growth and development of the territory I serve, it is but natural that that policy should be broad, liberal, wide in scope and with vision and founded upon service.

¶ I believe that opportunity is today domiciled in the South, and more particularly in that portion thereof by me served, and it is not for me to greedily grasp that opportunity, but mine to claim by right of superior ability to serve.

¶ I am not a thing apart from the people, but am interwoven with the affairs of their daily lives, and am conscious that the welfare and success of men and institutions are dependent upon me, and that in my welfare and success they are deeply interested, and not consciously would they impair my usefulness.

¶ Of my responsibilities I am ever mindful, and am ever appreciative that the keeping in motion of production and distribution processes is essential to the very life of those by me served, and that my task of taking the food supply to countless thousands is no mean service, that the taking of raw material to factory and finished product therefrom is a dignified and worthy calling, and that the lives of men, women, and children daily entrusted to my care is a sacred trust.

¶ The finger of scorn has never been pointed at me, the breath of scandal has never even faintly touched me, and every man connected with the service I render is deeply conscious of the obligations I owe to those I am privileged to serve, and so demeans himself as to be worthy of that confidence and trust placed in him by me and by the public served.

¶ Not only conscious of my responsibilities and the attendant obligations, am I, but a larger vision of service is mine.

¶ It is my purpose to do something more to build up my tributary territory than to do those things required of me by law, or the things directly and immediately beneficial to me. I know that opportunity carries with it responsibility, and that the one cannot be embraced and the other disowned, and I build the broader foundation of permanent success and work for the benefit of the communities along my right of way, and for long run development, and ever keep in mind the vision of my founders, and am ever striving to build up prosperous farms, great cities, countless industries and prosperous homes, and to develop great seaports, supply wants, create opportunities and prepare for unborn generations and possible national contingencies.

¶ I would be judged by my service, and I ask of and offer to all whose interests are mutual, and those who seek Southern opportunities, co-operation, I am the

**SEABOARD**  
**Air Line Railway Company**

¶ For point of personal contact  
with these opportunities, address

B. L. Hamner,  
General Development Agent,  
Norfolk, Virginia.



# Florida's Stock Raising Advantages Unequalled in America

**"Florida offers the best opportunity of any State in the Union for raising cattle."**

Thus is quoted in the Manufacturers Record an expert cattle raiser from Oklahoma who made a special study of Florida conditions.

**"Florida presents more natural advantages for stock raising than any State in the Union."**

In practically the same words, Dr. A. H. Logan, the new Government Veterinarian for Florida, is quoted in a Florida paper.

Both of these statements are based upon a knowledge of Florida's resources for stock raising resulting from an exhaustive study.

They emphasize the following advantages existing here, which cannot be duplicated in any other section of America:

**A climate that permits pasturage the year around.**

**A constant succession of good forage crops.**

**A minimum of food required to offset cold.**

**No expense for shelter in the coldest weather.**

**An abundance of pure drinking water.**

Here in this State of wonderful opportunities are all the essentials and in superabundance for cattle men of experience and energy to engage in a business of certain profit.

Along the East Coast of Florida are great areas of idle land—millions of acres of it—that await but the coming of the cattle raiser and the dairy farmer to make them produce abundantly of their present dormant riches.

*"Live Stock Farming in Florida" is the title of an interesting illustrated booklet containing a fund of authentic data and information on this subject. We will gladly send it to those desiring to investigate this opportunity.*

## FLORIDA EAST COAST RAILWAY

(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President

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An Actual Photograph of the Forests Along the Clinchfield Route

## Hardwood Distillation

The future of the hardwood distillation industry will unquestionably have to depend on the hardwood forests of the Southern Appalachians, and no portion of this vast territory offers a greater supply of wood than that portion traversed by the Carolina, Clinchfield & Ohio Railway.

277 miles of the Clinchfield's track penetrate the very heart of the only remaining virgin hardwood forests of the South, and the branch line connections, which act as feeders, are opening up additional boundaries of the finest timber.

The Clinchfield territory, therefore, offers exceptional advantages for the location of hardwood distillation plants, because

- (1) It affords an adequate supply of wood.
- (2) There is a nearby market for charcoal; and,
- (3) Because the general conditions are most favorable for the economic operation of such a plant.

*For Complete Information, Address*

**Carolina, Clinchfield & Ohio Railway**

**Industrial Department**

**V. V. KELSEY, Industrial Agent**

**JOHNSON CITY, TENN.**



**"THE NATION'S GARDEN SPOT"**

Those Parts of Virginia, North and South Carolina,  
Georgia, Florida and Alabama Traversed by the

ATLANTIC COAST LINE

## Six Good Reasons Why You Should Locate Here

In no section of the United States has the agriculturist a better foundation or a better outlook than in "The Nation's Garden Spot."

All of its splendid resources of land and climate are situated where the great activities of the immediate future are to be, and where has been provided the most beneficent climate known for the enjoyment of man and for the highest success of the tiller of the soil.

Here are six of many good reasons why the homeseeker will find "The Nation's Garden Spot" offers him the greatest opportunity in America:

- 1—In delightful and healthful conditions which prevail nearly the whole year through, being tempered at all times by ocean, gulf and lake breezes.
- 2—There are millions and millions of acres of virgin soil of the most fertile character, capable of growing from two to four profitable crops, and with less labor than in any cultivated area in the United States.
- 3—Because of climatic conditions, the Atlantic Coast Line section of the South through the States of Virginia, North Carolina, South Carolina, Georgia, Alabama and Florida practically hold monopoly in the growing and furnish delicate winter vegetables for all the United States. No other section of the country presents such remarkable possibilities.
- 4—The population of this section is made up of a progressive, moral and intelligent class, who are instituting the most modern system of development, making good civic and social conditions, and developing efficient economical distribution of products to all markets.
- 5—Good pure water is everywhere available.
- 6—Live stock can be grown more profitably, because "The Nation's Garden Spot" produces in such abundance and variety the most nutritious grasses and legumes for open-field grazing the whole year through.

## Atlantic Coast Line

*"The Standard Railroad of the South"*

For any information, please address

**W. J. CRAIG, Passenger Traffic Manager**

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Maryland Trust Co., Baltimore, Md.  
National Exchange Bank of Baltimore, Baltimore, Md.  
Mercantile Trust Co., St. Louis, Mo.  
Merchants-Mechanics First Nat'l Bk., Balto., Md.  
New First National Bank, Columbus, O.  
Palmetto National Bank, Columbia, S. C.  
Provident Savings Bk. & Tr. Co., Cincinnati, O.  
Union Trust Co., Chicago, Ill.

**Bank and Office Railings and Grilles. (Iron.)**

Bolles Iron & Wire Wks., J. E., Detroit, Mich.  
Dow Wire & Iron Wks., Louisville, Ky.  
Dufar & Co., Baltimore, Md.  
Dufar, Baggett & Co., Baltimore, Md.  
Ludlow-Saylor Wire Co., St. Louis, Mo.  
Meyers Mfg. Co., F. J., Hamilton, O.  
Pipe Railing Const. Co., Long Island City, N. Y.  
Up-To-Date Mfg. Co., Terre Haute, Ind.

**Barges. (Steel.)**

American Bridge Co., New York, N. Y.

**Barium Products. (Binoxide, Chloride, Hydrate, Nitrate, etc.)**

Rollin Chemical Co., Inc., Charleston, W. Va.

**Barium Sulphate. (Precipitated Blanc Fixe.)**

Rollin Chemical Co., Inc., Charleston, W. Va.

**Bar Iron. (Refined and Galvanized.)**

Bourne-Fuller Co., Cleveland, The, Ohio.  
Carnegie Steel Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.

**Bars. (Iron, Round and Square.)**

Texas Rolling Mill Co., Fort Worth, Texas.

**Bars. (Steel Rounds, Flats and Squares.)**

Camden Forge Co., Camden, N. J.  
Concrete Steel Co., New York, N. Y.  
Gulf States Steel Co., Birmingham, Ala.  
Sweet's Steel Co., Williamsport, Pa.

**Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)**

Cincinnati Iron & Steel Co., Cincinnati, O.  
Concrete Steel Co., New York, N. Y.  
Corrugated Bar Co., Buffalo, N. Y.  
Hoffman & Co., R. C., Inc., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Laclede Steel Co., St. Louis, Mo.  
Texas Rolling Mill Co., Fort Worth, Texas.  
Trussed Concrete Steel Co., Youngstown, O.

**Bearings. (Brass and Bronze.)**

More-Jones Brass & Metal Co., St. Louis, Mo.

**Bearings. (Graphite and Bronze.)**

Bound Brook Oil-less Brg. Co., Bound Brook, N. J.

**Bearings. (Oilless.)**

Bound Brook Oil-less Brg. Co., Bound Brook, N. J.  
Metaline Co., Long Island City, N. Y.

**Belting.**

LEATHER, CANVAS, RUBBER.  
Bailey-Lebby Co., Charleston, S. C.  
Baltimore Belting Co., Baltimore, Md.  
Cameron & Barkley Co., Charleston, S. C.  
Chesapeake Belting Co., Baltimore, Md.  
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.  
Draud Oak Belting Co., Inc., Baltimore, Md.  
Gandy Belting Co., Baltimore, Md.  
Goodrich Co., H. F., Akron, O.  
Goodyear Tire & Rubber Co., Akron, O.  
Graton & Knight Mfg. Co., Worcester, Mass.  
Main Belting Co., Philadelphia, Pa.  
Schieren Co., Chas. A., New York, N. Y.  
Smith-Courtney Co., Richmond, Va.

**Belting. (Continued.)**

Caldwell & Son Co., H. W., Chicago, Ill.  
Jeffrey Mfg. Co., Columbus, O.  
Link-Belt Co., Philadelphia, Pa.  
Morae Chain Co., Ithaca, N. Y.

**Belt Cement.**

Graton & Knight Mfg. Co., Worcester, Mass.

**Belt Conveyors.**

Alvey-Ferguson Co., Inc., Cincinnati, Ohio.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Robins Conveying Belt Co., New York, N. Y.

**Belt Dressing.**

Dixon Crucible Co., Joseph, Jersey City, N. J.  
Gandy Belting Co., Baltimore, Md.  
Graton & Knight Mfg. Co., Worcester, Mass.  
West Texas Products Co., San Antonio, Tex.

**Belt Lacing. (Leather.)**

Graton & Knight Mfg. Co., Worcester, Mass.

**Berths and Bunks. (For Ships and Contractors.)**

Southern-Rome Co., Baltimore, Md.

**Bicarbonate Soda. (Sap Stain Lumber Dip.)**

Church & Dwight Co., New York, N. Y.

**Billets. (Basic Open Hearths.)**

Atlantic Steel Co., Atlanta, Ga.  
Gulf States Steel Co., Birmingham, Ala.

**Blackboards. (Slate.)**

East Bangor Con. Slate Co., The, East Bangor, Pa.  
Johnson, E. J., New York, N. Y.

**Blanc Fixe.**

Rollin Chem. Co., Inc., Charleston, W. Va.

**Blocks. (Chain.)**

Wright Mfg. Co., Lisbon, Ohio

**Blocks. (Paving Crenelated.)**

American Crenelated Works, New Orleans, La.

**Block Fillers. (Paving.)**

Barber Asphalt Paving Co., Philadelphia, Pa.  
Barrett Co., New York, N. Y.  
Standard Oil Co. of La., Baton Rouge, La.  
U. S. Asphalt Refining Co., New York, N. Y.

**Blowers and Exhaust Fans.**

Buffalo Forge Co., Buffalo, N. Y.  
Clarage Fan Co., Kalamazoo, Mich.  
Clifton-Pratt Co., The, Cincinnati, O.  
General Electric Co., Schenectady, N. Y.  
Green Fuel Economizer Co., New York, N. Y.  
National Blow Pipe & Mfg. Co., New Orleans, La.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

**Blow Pipes.**

National Blow Pipe & Mfg. Co., New Orleans, La.  
Shreveport Blow Pipe & S. I. Wks., Shreveport, La.

**Boiler and Tank Work.**

Schofield's Sons Co., J. B., Macon, Ga.

**Boilers.**

Abendroth & Root Mfg. Co., Newburgh, N. Y.  
Babcock & Wilcox Co., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Coatesville Boiler Works, Coatesville, Pa.  
Harris Bros. Co., Chicago, Ill.  
Hartley Boiler Works, Montgomery, Ala.  
Lombard Iron Works, Augusta, Ga.  
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.  
Mecklenburg Iron Wks., Charlotte, N. C.  
Murray Iron Works Co., Burlington, Ia.  
Schofield Iron Works, Macon, Ga.

**Boiler and Tank Work. (Continued.)**

Southern Boiler & Tank Wks., Memphis, Tenn.  
Union Iron Works, Erie, Pa.  
Valk & Murdoch Co., Charleston, S. C.  
Vest Machine Co., Inc., Henry, Louisville, Ky.  
Walsh & Weldner Boiler Co., Chattanooga, Tenn.  
Zelnicke Supply Co., Walter A., St. Louis, Mo.

**Boiler Compound.**

Boiler-Kote Co., Chicago, Ill.

**Boiler Graphite.**

Dixon Crucible Co., Joseph, Jersey City, N. J.

**Bolts, Nuts, Rivets, Studs and Washers.**

American Equipment Co., Philadelphia, Pa.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Larkin & Co., J. K., New York, N. Y.  
Milton Mfg. Co., Milton, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Republic Iron & Steel Co., Youngstown, O.  
Stimpson Co., Edwin B., Brooklyn, N. Y.

**Bond Buyers.**

Cummings, Prudden & Co., Toledo, O.  
Gunter & Co., Little Rock, Ark.  
Law & Co., A. M., Spartanburg, S. C.  
Mercantile Trust Co., St. Louis, Mo.  
Mercantile Trust & Deposit Co., Baltimore, Md.  
National City Co., The, New York, N. Y.  
New First National Bank, The, Columbus, O.  
Nuven & Co., John, Chicago, Ill.  
Powell, Garard & Co., Chicago, Ill.  
Provident Savings Bk. & Tr. Co., Cincinnati, O.  
Ridenour Co., Hugh, Columbus, O.  
Spitzer & Co., Sidney, Toledo, O.  
Slayton & Co., W. L., Toledo, O.  
Stacy & Braun, Toledo, O.  
Towsend Scott & Son, Baltimore, Md.

**Bonds. (Surety, etc.)**

Fidelity & Deposit Co. of Md., Baltimore, Md.

**Bottling Outfits.**

Vilter Mfg. Co., Milwaukee, Wis.

**Brass and Copper. (Tubes, Sheets, Rods, Wire, etc.)**

Hungerford Brass & Copper Co., U. T., Balto., Md.

**Brass Goods.**

Bailey-Lebby Co., Charleston, S. C.  
Buckeye Iron Brass Works, Dayton, O.  
Lunkensheimer Co., The, Cincinnati, O.

**Brass Railing and Grilles.**

Hungerford Brass & Copper Co., U. T., Balto., Md.  
Ludlow-Saylor Wire Co., St. Louis, Mo.  
Newman Mfg. Co., Cincinnati, O.

**Brewers' Machinery.**

Vilter Mfg. Co., Milwaukee, Wis.

**Brick.**

HOOD BRICK CO., B. Mifflin, Atlanta, Ga.  
COMMON.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.  
Georgia-Carolina Brick Co., Augusta, Ga.  
Kingsport Brick Corp., Kingsport, Tenn.  
ENAMELED.  
Am. Enamelled Brick & Tile Co., New York, N. Y.  
FACE.  
Am. Enamelled Brick & Tile Co., New York, N. Y.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.  
Georgia-Carolina Brick Co., Augusta, Ga.  
Glasgow Clay Products Co., New York, N. Y.  
Hood Brick Co., B. Mifflin, Atlanta, Ga.  
Hydraulic Press Brick Co., St. Louis, Mo.  
Kingsport Brick Corp., Kingsport, Tenn.  
Standard Brick Co., Macon, Ga.  
FIRE.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.  
Louisville Fire Brick Wks., Inc., Highland Park, Ky.  
Penn & Kentucky Fir. Brick Co., Bolivar, Pa.  
Southern Refractories Co., Fort Payne, Ala.  
Standard Brick Co., Macon, Ga.  
Stevens Bros. & Co., Stevens Pottery, Ga.  
Union Mining Co., Mt. Savage, Md.  
PAVING.  
Copeland-Ingalls Shale Brick Co., Birmingham, Ala.  
Dunn Wire-Cut Lug Brick Co., Connecticut, O.  
Georgia-Carolina Brick Co., Augusta, Ga.  
Southern Clay Mfg. Co., Chattanooga, Tenn.  
Southern Paving Brick Mfg. Ass., Birmingham, Ala.  
Standard Brick Co., Macon, Ga.  
SLICED.  
Southern Refractories Co., Fort Payne, Ala.

**Brick and Clayworking Mchry. and Supplies.**

Chase Fdry. & Mfg. Co., Columbus, O.  
Frensholtz Brick Machinery Co., St. Louis, Mo.  
Frost & Co., E. M., Gallon, O.  
Steele & Sons, J. C., Statesville, N. C.

**Bridges.**

CONCRETE.  
Blodgett Construction Co., Shreveport, La.  
ROLLING LIFT.  
Sehser Rolling Lift Bridge Co., Chicago, Ill.  
STEEL.  
American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Blodgett Construction Co., Shreveport, La.  
Case Crane & Engineering Co., Columbus, O.  
Champion Bridge Co., Wilmington, O.  
Chesapeake Iron Works, Baltimore, Md.  
Richmond Structural Steel Co., Richmond, Va.  
Sehser Rolling Lift Bridge Co., Chicago, Ill.  
Vincennes Bridge Co., Vincennes, Ind.  
Virginia Bridge & Iron Co., Roanoke, Va.

**Bridge and Structural Iron Paints.**

Chattanooga Paint Co., Chattanooga, Tenn.  
Detroit Graphite Co., Detroit, Mich.

**Brimstone.**

Union Sulphur Co., New York, N. Y.

**Buckets.**

CLAW SHRELL.  
Hais Mfg. Co., Geo., New York, N. Y.  
Hayward Co., New York, N. Y.  
Owen Bucket Co., The, Cleveland, O.  
CONCRETE.  
Automatic Cover Mixer Co., Inc., Providence, R. I.  
DREDGING, EXCAVATING, SEWER, ETC.  
Hayward Co., New York, N. Y.  
Mead-Morrison Mfg. Co., East Boston, Mass.  
Monaghan Mch. Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, O.  
GRAB.  
Hunt Co., Inc., C. W., West New Brighton, N. Y.  
Link-Belt Co., Philadelphia, Pa.  
ORANGE PEEL.  
Hayward Co., The, New York, N. Y.  
ORE HANDLING.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Hayward Co., New York, N. Y.  
BUHR STONES.  
Starr Co., B. F., Baltimore, Md.

**Builders and Contractors.**

Austin Co., The, Cleveland, O.  
Stewart & Co., R. E., South Boston, Va.  
Stone & Webster Eng. Corp., Boston, Mass.  
Westinghouse Church Kerr & Co., New York, N. Y.  
White Companies, J. G., New York, N. Y.

**Buildings. (Pressed Steel.)**

Trussed Concrete Steel Co., Yonkers, Ohio.

**Building Castings.**

U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.

**Building Supplies.**

Harris Bros. Co., Chicago, Ill.  
Southern Building Material Co., Norfolk, Va.

**Bunks. (For Contractors.)**

Southern-Rome Co., Baltimore, Md.

**Burners. (Acetylene and Gas.)**

Gregory Talc Co., Nashville, Tenn.

**Bushings. (Graphite, Bronze and Wood.)**

Bound Brook Oil-less Brg. Co., Bound Brook, N. J.

**Bushings. (Oilless.)**

Bound Brook Oil-less Brg. Co., Bound Brook, N. J.  
Metaline Co., Long Island City, N. Y.

**Cables. (Copper Wire, etc.)**

Broderick & Bascom Rope Co., St. Louis, Mo.

**Cables and Wires. (Electric.)**

American Steel & Wire Co., Chicago, Ill.  
Haberhauw Electric Cable Co., Inc., New York, N. Y.  
Roebbing's Sons Co., John A., Trenton, N. J.

**Cableways. (Overhead, Suspension.)**

Broderick & Bascom Rope Co., St. Louis, Mo.  
Flory Mfg. Co., S. Bangor, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.

**Can and Box Making Machinery. (Tin.)**

Ans Machine Co., Max, Bridgeport, Conn.  
Bliss Co., E. W., Brooklyn, N. Y.

**Canvas Preservative and Waterproofing.**

Robeson Preserve Products Co., Fort Huron, Mich.

**Carborundum Paper and Cloth.**

Carborundum Co., Niagara Falls, N. Y.

**Cars. (Dump, Industrial, Logging and Mine.)**

Austin Mfg. Co., Chicago, Ill.  
Chase Fdry. & Mfg. Co., Columbus, O.  
Electric Wheel Co., Quincy, Ill.  
Georgia Car & Locomotive Co., Atlanta, Ga.  
Hunt Co., O. W., Inc., West New Brighton, N. Y.  
Kilbourne & Jacobs Mfg. Co., Columbus, O.  
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.  
Western Wheel Scraper Co., Aurora, Ill.

**Car Unloaders.**



- Channellers.**  
Ingersoll-Rand Co., New York, N. Y.
- Chemicals.**  
Davison Chemical Co., Baltimore, Md.  
Du Pont Chemical Works, New York, N. Y.  
Rollin Chemical Co., Inc., Charleston, W. Va.
- Chaplets.**  
Fanner Mfg. Co., The, Cleveland, O.
- Chemists, Chemical Engineers.**  
**ACIDS-INORGANIC.**  
Thiele, Ludwig A., Columbus, Ohio  
**ALCOHOL.**  
James & Breckler, Louisville, Ky.  
**CEMENT.** (Portland.)  
Davis, Geo. C., Philadelphia, Pa.  
Froehling & Robertson, Richmond, Va.  
Hunt & Co., Robert W., Chicago, Ill.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
**COAL BY-PRODUCTS.**  
Burgess & Long, Columbus, Ohio.  
Institute of Industrial Research, Washington, D. C.  
James & Breckler, Louisville, Ky.  
Little Co., Inc., Arthur D., Boston, Mass.  
Ney, Inc., A. H., New York, N. Y.  
Ohio Testing Laboratory, Columbus, O.  
Picard, D. C., Birmingham, Ala.  
Wiley & Co., Baltimore, Md.  
**COTTONSEED.**  
Burgess & Long, Columbus, Ohio.  
Fort Worth Laboratories, Ft. Worth, Tex.  
Picard, D. C., Birmingham, Ala.  
Thiele, Ludwig A., Columbus, Ohio.  
Wiley & Co., Baltimore, Md.  
**FERTILIZERS.**  
Burgess & Long, Columbus, Ohio.  
Froehling & Robertson, Richmond, Va.  
James & Breckler, Louisville, Ky.  
Ohio Testing Laboratory, Columbus, O.  
Picard, D. C., Birmingham, Ala.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
Sadtler & Son, Samuel P., Philadelphia, Pa.  
Wiley & Co., Baltimore, Md.  
**FUEL.**  
Burgess & Long, Columbus, Ohio.  
Davis, Geo. C., Philadelphia, Pa.  
Fort Worth Laboratories, Ft. Worth, Tex.  
Hunt & Co., Robert W., Chicago, Ill.  
Institute of Industrial Research, Washington, D. C.  
James & Breckler, Louisville, Ky.  
Little, Inc., Arthur D., Boston, Mass.  
Ohio Testing Laboratory, Columbus, O.  
Picard, D. C., Birmingham, Ala.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
Sadtler & Son, Samuel P., Philadelphia, Pa.  
Thiele, Ludwig A., Columbus, Ohio.  
Wiley & Co., Baltimore, Md.  
**MINERALS.**  
Burgess & Long, Columbus, Ohio.  
Davis, Geo. C., Philadelphia, Pa.  
Emory & Eisenberg, Philadelphia, Pa.  
Institute of Industrial Research, Washington, D. C.  
James & Breckler, Louisville, Ky.  
Little, Inc., Arthur D., Boston, Mass.  
Ohio Testing Laboratory, Columbus, O.  
Picard, D. C., Birmingham, Ala.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
Sadtler & Son, Samuel P., Philadelphia, Pa.  
Thiele, Ludwig A., Columbus, Ohio.  
Wiley & Co., Baltimore, Md.  
**OIL.**  
Burgess & Long, Columbus, Ohio.  
Fort Worth Laboratories, Ft. Worth, Tex.  
Ohio Testing Laboratory, Columbus, O.  
Wiley & Co., Baltimore, Md.  
**STEEL.**  
Hunt & Co., Robert W., Chicago, Ill.  
Institute of Industrial Research, Washington, D. C.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
**WATER.**  
Burgess & Long, Columbus, Ohio.  
Fort Worth Laboratories, Ft. Worth, Tex.  
Froehling & Robertson, Richmond, Va.  
Institute of Industrial Research, Washington, D. C.  
Ohio Testing Laboratory, Columbus, O.  
Picard, D. C., Birmingham, Ala.  
Sadtler & Son, Samuel P., Philadelphia, Pa.  
Wiley & Co., Baltimore, Md.
- Chloride Accumulator.**  
Electric Storage Battery Co., The, Philadelphia, Pa.
- Cigarette Making Machinery.**  
American Machine & Fdry. Co., Brooklyn, N. Y.
- Circuit Breakers.** (Automatic Reclosing.)  
Auto. Reclosing Circuit Breaker Co., Columbus, O.
- Cleaning Compound.** (Floors, Etc.)  
India Alkali Works, Boston, Mass.
- Clocks.** (Watchman's Portable.)  
Eco Clock Co., Boston, Mass.  
Harding Bros., Inc., Chicago, Ill.  
Newman Clock Co., New York, N. Y.
- Clutches.** (Friction.)  
Caldwell Co., W. E., Louisville, Ky.  
Conway & Company, Cincinnati, Ohio.  
Dodge Sales & Engr. Co., Mishawaka, Ind.  
Medart Patent Pulley Co., St. Louis, Mo.  
Moore & White Co., The, Philadelphia, Pa.
- Coal.**  
The Alabama Co., Birmingham, Ala.  
Consolidation Coal Co., Inc., New York, N. Y.  
Tennessee Coal, Iron & R. R. Co., B'm'gh'm Ala.
- Coal Cutters.**  
Jeffrey Mfg. Co., Columbus, O.
- Coal Handling Machinery.**  
Larlett & Snow Co., C. O., Cleveland, O.  
Guarantee Construction Co., New York, N. Y.  
Hais Mfg. Co., Geo., New York, N. Y.  
Hayward Co., New York, N. Y.  
Hunt Co., C. W., Inc., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Link Belt Co., Philadelphia, Pa.  
Robins Conveying Belt Co., New York, N. Y.  
Weller Mfg. Co., Chicago, Ill.
- Coal Tar and By-Products.**  
Barrett Co., New York, N. Y.
- Coal Tipples.**  
American Bridge Co., New York, N. Y.
- Coil Making.** (Armature and Field.)  
Charlotte Elec. Repair Co., Charlotte, N. C.
- Coke.**  
The Alabama Co., Birmingham, Ala.  
Hammond-Byrd Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & R. R. Co., B'm'gh'm Ala.
- Cold Store Doors.**  
Brecht Co., The, St. Louis, Mo.
- Colleges.** (For Girls.)  
Converse College, Spartanburg, S. C.
- Columns.** (Cast Iron.)  
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
- Columns.** (Center Bored.)  
Cordele Sash, Door & Lumber Co., Cordele, Ga.
- Concrete Construction.** (Reinforced.)  
Asbestos Protected Metal Co., Pittsburgh, Pa.  
Corrugated Bar Co., Buffalo, N. Y.  
Guarantee Construction Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.
- Concrete Curb Protector.** (Steel.)  
Tressed Concrete Steel Co., Youngstown, Ohio
- Concrete Forms.**  
Northwestern Steel & Iron Wks., Eau Claire, Wis.
- Concrete Reinforcing Bars.**  
Burner-Fulker Co., The, Cleveland, Ohio.  
Carnegie Steel Co., Pittsburgh, Pa.  
Concrete Steel Co., New York, N. Y.  
Corrugated Bar Co., Buffalo, N. Y.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Hoffman & Co., R. G., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.  
Laclede Steel Co., St. Louis, Mo.  
Republic Iron & Steel Co., Youngstown, Ohio.  
Sawett's Steel Co., Williamsport, Pa.  
Texas Rolling Mill Co., Fort Worth, Texas.  
Tressed Concrete Steel Co., Youngstown, Ohio.
- Concrete Reinforcing Wire and Wire Fabric.**  
American Steel & Wire Co., Chicago, Ill.  
Consolidated Expanded Metal Co.'s, Bradock, Pa.
- Condensers.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Crescent-Morris Co., Philadelphia, Pa.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.  
Worthington Pump & Machinery Corp., New York, N. Y.  
York Mfg. Co., York, Pa.
- Conductor Pipe.**  
Edwards Mfg. Co., Cincinnati, O.
- Conduits.** (Electrical, Interior, Steel.)  
National Metal Molding Co., Pittsburgh, Pa.  
Youngtown Sheet & Tube Co., Youngstown, O.
- Conduit Fittings.**  
National Metal Molding Co., Pittsburgh, Pa.
- Contractors.**  
**BUILDING.**  
Austin Co., The, Cleveland, O.  
Stewart & Co., R. K., South Boston, Va.  
Stone & Webster Engineering Corp., Boston, Mass.  
Westinghouse, Church Kerr & Co., New York, N. Y.  
White Corp., J. G., New York, N. Y.  
**CEMENT GUN WORK.**  
Cement Gun Co., Inc., Allentown, Pa.  
**DRAINAGE.**  
Atlantic, Gulf & Pacific Co., New York, N. Y.  
Cox & Co., Henry J., Alexandria, La.  
**DREDGING.**  
Atlantic, Gulf & Pacific Co., New York, N. Y.  
Cox & Co., Henry J., Alexandria, La.  
**GENERAL.**  
Lane & Co., Inc., C. W., Atlanta, Ga.  
Stone & Webster Engr. Corp., Boston, Mass.  
White Corp., J. G., New York, N. Y.  
Willard, Boggs & Co., Spartanburg, S. C.  
**RAILROAD.**  
Blodgett Construction Co., Shreveport, La.  
Cox & Co., Henry J., Alexandria, La.  
Willard, Boggs & Co., Spartanburg, S. C.  
**REINFORCED CONCRETE.**  
Lane & Co., Inc., C. W., Atlanta, Ga.  
**ROAD AND STREET PAVING.**  
Lane & Co., Inc., C. W., Atlanta, Ga.  
McCrory Co., J. B., Atlanta, Ga.  
Southern Purchasing Co., Chattanooga, Tenn.  
West Coast Const. Co., The, Chattanooga, Tenn.  
**SEWER AND WATER WORKS.**  
Lane & Co., Inc., C. W., Atlanta, Ga.  
McCrory Co., J. B., Atlanta, Ga.  
Willard, Boggs & Co., Spartanburg, S. C.  
**STEAM SHOVEL WORK.**  
Blodgett Construction Co., Shreveport, La.
- Contractor's Machinery and Supplies.**  
American Clay Mch. Co., The, Bucyrus, O.  
Arisinger Mch. Co., W. O., Nashville, Tenn.  
Austin Mfg. Co., Chicago, Ill.  
Burghelm Co., Hugo, Cincinnati, O.  
Byers Mach. Co., The, John F., Ravenna, O.  
Contractors Mch. & Supply Co., Pittsburgh, Pa.  
Equity Equipment Co., Inc., The, Cincinnati, O.  
Flory Mfg. Co., S. Bangor, Pa.  
Gardner Inc., James T., Chicago, Ill.  
Hoising Engine Sales Co., New York, N. Y.  
Ideal Concrete Mch. Co., Cincinnati, O.  
Ingersoll-Rand Co., New York, N. Y.  
International Equipment Co., Chicago, Ill.  
Jaeger Machine Co., The, Columbus, O.  
Jewel Supply & Equipment Co., Inc., Baltimore, Md.  
Joseph Iron Co., The, Cincinnati, O.  
Kerbaugh, Inc., H. S., New York, N. Y.  
Marine Metal & Supply Co., New York, N. Y.  
Milburn Co., Alex., Baltimore, Md.  
Modern Mehry, Exchange, New York, N. Y.  
Monaghan Mch. Co., Chicago, Ill.  
Morrison Hackley, Richmond, Va.  
Motters' Sons Geo. F., York, Pa.  
Northwestern Steel & Iron Wks., Eau Claire, Wis.  
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.  
Peckham & Co., Fred. A., Cleveland, Ohio.  
Pipe & Contractors Supply Co., New York, N. Y.  
Price & Pratt, Norfolk, Va.  
Shaw, Willis, Chicago, Ill.  
Sherwood, E. C., New York, N. Y.  
South Side Fdry. & Mch. Wks., Charleston, W. Va.  
Southwestern Mch. Co., Ft. Smith, Ark.  
Standard Sealed and Supply Co., Pittsburgh, Pa.  
Stark Co., S. L., Pittsburgh, Pa.  
Sterling Iron & Steel Co., Philadelphia, Pa.  
Texas Power & Light Co., Dallas, Tex.  
United States Equipment Co., Chic go, Ill.  
Weller & Co., Birmingham, Ala.  
Whayne Supply Co., Roy, C., Louisville, Ky.  
Wickes Machinery Co., Jersey City, N. J.
- Contract Work by Southern Firms.**  
[See following classifications.]  
**BOILER AND TANK WORK.**  
**CASTINGS.**  
**FOUNDRY AND MACHINE SHOPS.**  
**GEAR CUTTING.**  
**MACHINERY.** (Special.)  
**ORNAMENTAL IRON WORKS.**  
**PATTERN MAKING.**  
**SHEET METAL WORK.**  
**STRUCTURAL STEEL AND IRON.**  
**WELDING PLANTS.**  
Altavista Foundry Co., Altavista, Va.  
American Forging Co., Birmingham, Ala.  
Chattanooga Rfg. & Fdry. Co., Chattanooga, Tenn.  
Columbus Iron Works Co., Columbus, Ga.  
Durham Fdry. & Mch. Wks., Durham, N. C.  
Gyro Metal Works, Norfolk, Va.  
Hardie-Tynes Mfg. Co., Birmingham, Ala.  
Janney & Co., Montgomery, Ala.  
Milburn Co., Alex., Baltimore, Md.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Rome Mch. & Fdry. Co., Rome, Ga.  
Salem Foundry & Machine Works, Salem, Va.  
Salem Iron Wks., Winston-Salem, N. C.
- Schofield's Sons Co., J. S., Macon, Ga.**  
**Southern Foundry Co., Owensboro, Ky.**  
**Standard Iron Works, Spartanburg, S. C.**  
**Stratton & Bragg Co., Petersburg, Va.**  
**St. Louis Brass & Iron Co., St. Louis, Mo.**  
**Wilmington Iron Works, Inc., Wilmington, N. C.**  
**Wilhelm Fdry. & Mch. Wks., Atlanta, Ga.**
- Conveying and Elevating Machinery.**  
Alvey-Ferguson Co., Inc., Cincinnati, Ohio.  
Bartlett & Snow Co., C. O., Cleveland, O.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Collins, J. D., Atlanta, Ga.  
Flory Mfg. Co., S. Bangor, Pa.  
Guarantee Const. Co., New York, N. Y.  
Hunt Co., C. W., Inc., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Lidgerwood Mfg. Co., New York, N. Y.  
Link-Belt Co., Philadelphia, Pa.  
Main Belting Co., Philadelphia, Pa.  
Mathews Gravity Carrier Co., Ellwood City, Pa.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Robins Conveying Belt Co., New York, N. Y.  
Sturtevant Mill Co., Boston, Mass.  
Weller Mfg. Co., Chicago, Ill.
- Cooling Ponds.**  
Spray Engineering Co., Boston, Mass.
- Copper & Brass.** (Sheet, Tubes, Rods, Wire, etc.)  
Hungerford Brass & Copper Co., U. T., Balto., Md.
- Coppersmiths.**  
Ahlers & Gregoire, Louisville, Ky.
- Cordage.**  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Columbian Rope Co., Auburn, N. Y.  
Waterbury Co., New York, N. Y.
- Corner Beads.**  
Milwaukee Corrugating Co., Milwaukee, Wis.
- Corn-Mill Machinery.**  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Starr Co., B. F., Baltimore, Md.  
Wolf Co., Chambersburg, Pa.
- Cotton Duck.**  
Turner-Halsey Co., New York, N. Y.
- Cotton-Gin Machinery.**  
Continental Gin Co., Birmingham, Ala.  
Murray Co., The, Atlanta, Ga.
- Cotton-Mill Machinery.**  
Crompton & Knowles Loom Wks., Worcester, Mass.  
Draper Corp., Hopedale, Mass.  
Saco-Lowell Shop, Boston, Mass.  
Whitinsville Spin'g Ring Co., Whitinsville, Mass.
- Cotton-Mill Supplies.**  
Crompton & Knowles Loom Wks., Worcester, Mass.  
Whitinsville Spin'g Ring Co., Whitinsville, Mass.
- Cottonseed-Oil Machinery.**  
Hauer Bros. Co., The, Springfield, Ohio.  
Buckeye Iron & Brass Wks., Dayton, O.  
Cardwell Machine Co., Richmond, Va.  
Continental Gin Co., Birmingham, Ala.  
French Oil Mill Mch. Co., Piqua, O.  
Murray Co., The, Atlanta, Ga.  
Platt Iron Works, Dayton, O.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Couplings.**  
American Spiral Pipe Wks., Chicago, Ill.  
Goldens' Fdry. Mch. Co., Columbus, Ga.  
Safety First Mfg. Co., Washington, D. C.  
Woods' Sons Co., T. B., Chambersburg, Pa.
- Coverings.** (Pipe, Boilers, etc.)  
Johns-Manville Co., H. W., New York, N. Y.  
Southern Asbestos Mfg. Co., Inc., Richmond, Va.  
Wyckoff & Son Co., A., Elmira, N. Y.
- Cranes.**  
**TRAVELING HAND, POWER, HYDRAULIC.**  
Case Crane & Engineering Co., Columbus, O.  
Niles-Bement-Pond Co., New York, N. Y.  
Speidel, J. G., Reading, Pa.  
Zin-Ho Mfg. Co., Chicago, Ill.  
**LOCOMOTIVE.**  
Link-Belt Co., Philadelphia, Pa.
- Crane Shafts.** (Engine, Turbine, Pump, Marine.)  
Camden Forge Co., Camden, N. J.
- Crayons.**  
DeSoto Tale Co., The, Chatsworth, Ga.  
Georgia Tale Co., Asheville, N. C.  
Gregory Tale Co., Nashville, Tenn.  
Lowell Crayon Co., Lowell, Mass.  
Tale Products Co., New York City.
- Crescoted Materials.**  
Barrett Co., New York, N. Y.  
Republic Cresenting Co., Indianapolis, Ind.  
Southern Exchange Co., New York, N. Y.
- Crescoted.** (Wood Materials.)  
American Crescote Works, New Orleans, La.  
National Lbr. & Cross, Co., Texarkana, Ark.  
Southern Crescoting Co., Ltd., Slidell, La.  
Southern Paving Const. Co., Chattanooga, Tenn.  
Southern Wood Preserving Co., Atlanta, Ga.
- Crescoting Equipment.**  
Casey-Hedges Co., Chattanooga, Tenn.  
Struthers-Wellis Co., Warren, Pa.
- Cross Arm Machinery.**  
Chattanooga Mch. Co., Chattanooga, Tenn.
- Crossarms.** (Crescoted.)  
American Crescote Wks., New Orleans, La.  
Crescoted Materials Co., Inc., New Orleans, La.  
Southern Crescoting Co., Ltd., Slidell, La.  
Southern Exchange Co., New York, N. Y.  
Southern Paving Const. Co., Chattanooga, Tenn.  
Southern Wood Preserving Co., Atlanta, Ga.
- Crosssties.** (Crescoted.)  
American Crescote Wks., New Orleans, La.  
Crescoted Materials Co., Inc., New Orleans, La.  
Southern Crescoting Co., Ltd., Slidell, La.  
Southern Paving Const. Co., Chattanooga, Tenn.  
Southern Wood Preserving Co., Atlanta, Ga.
- Crushed Stone.** (Road Concrete and Ballast.)  
American Ballast Co., Knoxville, Tenn.  
Chickamauga Quarry & Con. Co., Chat'n'gs, Tenn.  
Empire Cement & Limestone Co., Atlanta, Ga.  
Foster & Creighton Co., Nashville, Tenn.  
Kirkpatrick Sand & Cement Co., Birmingham, Ala.  
Weston & Brooker Co., Columbia, S. C.
- Crushers.**  
**COAL AND COKE.**  
Link Belt Co., Philadelphia, Pa.  
Sturtevant Mill Co., Boston, Mass.  
**CORN AND COB.**  
Gruehler Pat. Crusher & Pulv. Co., St. Louis, Mo.  
Jeffrey Mfg. Co., Columbus, O.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.  
**ROCK.**  
Austin Mfg. Co., Chicago, Ill.  
Buchanan Co., Inc., C. G., New York, N. Y.  
Lehigh Car, Wheel & Axle Wks., Catasauquus, Pa.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Sturtevant Mill Co., Boston, Mass.**  
**Traylor Engr. & Mfg. Co., Allentown, Pa.**  
**Universal Road Mch. Co., Kingston, N. Y.**  
**Western Wheel Scraper Co., Aurora, Ill.**
- Crushing and Pulverizing Machinery.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Austin Mfg. Co., Chicago, Ill.  
Bartlett & Snow Co., C. O., Cleveland, O.  
Bradley Pulverizer Co., Allentown, Pa.  
Buchanan Co., Inc., C. G., New York, N. Y.  
Gruehler Pat. Crusher & Pulv. Co., St. Louis, Mo.  
Jeffrey Mfg. Co., Columbus, O.  
K-B Pulverizer Co., Inc., New York, N. Y.  
Lehigh Car, Wheel & Axle Wks., Catasauquus, Pa.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Sturtevant Mill Co., Boston, Mass.  
Traylor Engr. & Mfg. Co., Allentown, Pa.  
Western Wheel Scraper Co., Aurora, Ill.  
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.
- Culvert Pipe.** (Cast Iron.)  
American Casting Co., Birmingham, Ala.  
Cast Iron Pipe Co., Birmingham, Ala.  
American Pipe & Const. Co., Philadelphia, Pa.  
Cast Iron Pipe & Pub. Utility Bureau, New York, N. Y.  
Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
Hammond-Byrd Iron Co., Birmingham, Ala.  
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.  
Wood & Co., N. D., Philadelphia, Pa.
- Culverts.** (Corrugated Metal.)  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Armed Iron Cal. & Flume Mfgs' Assn., Cincinnati, O.  
Canton Culvert & Sile Co., The, Canton, O.  
Tennessee Metal Culvert Co., Nashville, Tenn.
- Curb Protector.** (Steel.)  
Tressed Concrete Steel Co., Youngstown, O.
- Cutter Grinders.**  
Vitrified Wheel Co., Westfield, Mass.
- Cutting.** (Dry-Acetylene Process.)  
Industrial Welding Co., Baltimore, Md.  
Milburn Co., Alex., Baltimore, Md.  
Frost-O-Lite Co., Inc., The, Indianapolis, Ind.
- Cuts.** (Half Tens, Line, etc.)  
Alpha Photo Engraving Co., Baltimore, Md.
- Derricks and Derrick Fittings.**  
Byers Mach. Co., The, John F., Ravenna, O.  
Hayward Co., The, New York, N. Y.  
Monaghan Machine Co., Chicago, Ill.
- Designers and Illustrators.** (Printed Matter.)  
Alpha Photo Engraving Co., Baltimore, Md.
- Diamond Core Drilling.**  
Pennsylvania Drilling Co., Pittsburgh, Pa.
- Ditching Machinery.**  
Bay City Dredge Works, Bay City, Mich.  
Fairbanks Steam Shovel Co., Marion, O.  
Hayward Co., The, New York, N. Y.  
Monaghan Machine Co., Chicago, Ill.  
Osagood Co., The, Marion, O.  
Owensboro Ditcher & Grader Co., Owensboro, Ky.  
Satterman Bros., Chicago, Ill.
- Doors.** (Steel Rolling.)  
Kinney Mfg. Co., Columbus, O.  
Van Hurling, J. M., Atlanta, Ga.
- Wood.**  
Cordele Sash, Door & Lumber Co., Cordele, Ga.
- Double Seamers.**  
Ama Machine Co., Max, Bridgeport, Conn.
- Draftsmen's Supplies.**  
Weber & Co., F., Philadelphia, Pa.
- Dredging.** (River, Harbor Improvement.)  
Atlantic, Gulf & Pacific Co., New York, N. Y.
- Drills.**  
**ELECTRIC.**  
Independent Pneumatic Tool Co., Chicago, Ill.  
Zin-Ho Mfg. Co., Chicago, Ill.  
**PNEUMATIC.**  
Independent Pneumatic Tool Co., Chicago, Ill.  
**PROSPECTING.**  
Ingersoll-Rand Co., New York, N. Y.  
St. Louis Well Mch. & Tool Co., St. Louis, Mo.  
**ROCK AND MINING.**  
Ingersoll-Rand Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Sullivan Mch. Co., Chicago, Ill.  
**TWIST.**  
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.
- Drinking Fountains.** (Factory, Office, etc.)  
Ebinger Sanitary Mfg. Co., D. A., Columbus, Ohio.
- Drop Forgings.**  
American Forging Co., Birmingham, Ala.  
American Spiral Pipe Works, Chicago, Ill.
- Drop Forging Machinery.**  
Bliss Co., E. W., Brooklyn, N. Y.
- Dry Docks.** (Builders of.)  
American Bridge Co., New York, N. Y.
- Drying Apparatus.**  
Carrier Engineering Corp., New York, N. Y.
- Drying Machinery.**  
American Process Co., New York, N. Y.  
Bailey-Lebby Co., The, Charleston, S. C.  
Buffalo Forge Co., Buffalo, N. Y.  
Clange Pan Co., Kalamazoo, Mich.  
Coatesville Boiler Works, Coatesville, Pa.  
Cummer & Son Co., F. D., The, Cleveland, O.  
Herney Mfg. Co., South Boston, Mass.  
Ruggles-Coles Engr. Co., York, Pa.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
- Dry Kilns.**  
Buffalo Forge Co., Buffalo, N. Y.  
Moore Dry Kiln Co., L., Jacksonville, Fla.
- Dry Kiln Equipment.**  
Moore Dry Kiln Co., L., Jacksonville, Fla.
- Dumb Waiters.** (Hand Power.)  
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.  
Speidel, J. G., Reading, Pa.
- Dump Wagons.**  
Western Wheel Scraper Co., Aurora, Ill.
- Dust-Collecting Systems.**  
Buffalo Forge Co., Buffalo, N. Y.  
Shreveport Blow Pipe & S. I. Works, Ltd., Shreveport, La.
- Dustproofing.** (Concrete.)  
Sonaborn Sons, Inc., L., New York, N. Y.
- Dynamite.** (Industrial and Agricultural.)  
Actna Explosives Co., Inc., New York, N. Y.  
Atlas Powder Co., Wilmington, Del.  
Du Pont de Nemours & Co., E. I., Wilmington, Del.  
Hercules Powder Co., Wilmington, Del.
- Dynamometers and Motors.**  
General Electric Co., Schenectady, N. Y.  
Pan Electric Mfg. Co., St. Louis, Mo.  
Westinghouse Elect. & Mfg. Co., E. Pittsburgh, Pa.  
Western Electric Co., New York, N. Y.
- Eaves.** (Trough.)  
Edwards Mfg. Co., Cincinnati, O.

- Electors. (Sewage.)**  
Lunkenheimer Co., The, Cincinnati, O.
- Electric Machinery. (Dynamoe Generators Motors, etc.)**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Baltimore Electric Supply Co., Atlanta, Ga.  
Blount & Co., J. I., Birmingham, Ala.  
Crocke-Wheeler Co., Ampere, N. J.  
Doubleday-Hill Elec. Co., Washington, D. C.  
General Electric Co., Schenectady, N. Y.  
Klein & Co., Nathan, New York, N. Y.  
Lincoln Electric Co., Cleveland, Ohio.  
O'Brien Mch. Co., Philadelphia, Pa.  
Pan Electric Mfg. Co., St. Louis, Mo.  
Piedmont Electric Co., Asheville, N. C.  
Sachseman & Co., Geo., Philadelphia, Pa.  
Schroeder Electric Co., Evansville, Ind.  
Stewart, S. J., [Electric], New Orleans, La.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.  
Tower-Binford Electric & Mfg. Co., Richmond, Va.  
Texas Power & Light Co., Dallas, Tex.  
Western Electric Co., New York, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.  
Wilson Mch. Co., St. Louis, Mo.
- Electric Switches. (High Voltage.)**  
Railway & Industrial Engr. Co., Pittsburgh, Pa.
- Electrical Contractors' Instruments and Supplies.**  
Auto. Recloning Circuit Breaker Co., Columbus, O.  
Baltimore Electrical Supply Co., Atlanta, Ga.  
Booth Felt Co., Inc., Brooklyn, N. Y.  
Crocke-Wheeler Co., Ampere, N. J.  
Doubleday-Hill Elec. Co., Washington, D. C.  
General Electric Co., Schenectady, N. Y.  
Piedmont Electric Co., Asheville, N. C.  
Tower-Binford Electric & Mfg. Co., Richmond, Va.  
Weston Electrical Instrument Co., Newark, N. J.
- Electrical Conduits.**  
National Metal Molding Co., Pittsburgh, Pa.
- Electrical Machinery Repairing. (Motors Generators, etc.)**  
Charlotte Elec. Repair Co., Charlotte, N. C.
- Electric Light Plants. (Portable.)**  
Schroeder Electric Co., Evansville, Ind.
- Elevators.**  
**AUTOMATIC.**  
Mathews Gravity Carrier Co., Ellwood City, Pa.  
**ELECTRIC.**  
American Elec. Mch. & Elev. Co., St. Louis, Mo.  
American Elev. & Mch. Co., Inc., Louisville, Ky.  
K. C. Elevator Mfg. Co., Kansas City, Mo.  
Kimball Bros. Co., Council Bluffs, Iowa.  
Moffatt Mch. Co., Charlotte, N. C.  
Otis Elevator Co., New York, N. Y.  
Speidel, J. G., Reading, Pa.  
Warsaw Elevator Co., Baltimore, Md.  
**HAND AND BELT POWER.**  
American Elec. Mch. & Elev. Co., St. Louis, Mo.  
American Elev. & Mch. Co., Inc., Louisville, Ky.  
K. C. Elevator Mfg. Co., Kansas City, Mo.  
Kimball Bros. Co., Council Bluffs, Iowa.  
Moffatt Mch. Co., Charlotte, N. C.  
Speidel, J. G., Reading, Pa.  
**HYDRAULIC.**  
American Elec. Mch. & Elev. Co., St. Louis, Mo.  
American Elev. & Mch. Co., Inc., Louisville, Ky.  
K. C. Elevator Mfg. Co., Kansas City, Mo.  
Moffatt Mch. Co., Charlotte, N. C.  
Otis Elevator Co., New York, N. Y.  
**PORTABLE FOR WAREHOUSES, ETC.**  
Economy Engineering Co., Chicago, Ill.  
**STEAM HYDRAULIC.**  
Otis Elevator Co., New York, N. Y.  
Hidway & Son Co., The, Coatesville, Pa.
- Elevator Buckets.**  
Alvey-Ferguson Co., Inc., Cincinnati, Ohio.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Hendrick Mfg. Co., Carbondale, Pa.  
Jeffrey Mfg. Co., Columbus, O.  
Link-Belt Co., Philadelphia, Pa.
- Elevator Enclosures and Cabs.**  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
Dow Wire & Iron Works, Inc., Louisville, Ky.  
Dufur & Co., Baltimore, Md.  
Dufur, Baggot & Co., Baltimore, Md.  
Meyers Mfg. Co., The, Fred J., Hamilton, O.  
Otis Elevator Co., New York, N. Y.
- Elevator Safety Gates.**  
American Elec. Mch. & Elev. Co., St. Louis, Mo.
- Enameling. (Porcelain.)**  
St. Louis Brass Mfg. Co., St. Louis, Mo.
- Enamels.**  
Aero Co., Cleveland, Ohio.  
Detroit Graphite Co., Detroit, Mich.
- Engineers.**  
**AGRICULTURAL.**  
Weston, Geo. F., New York, N. Y.  
**APPROPRIAL.**  
Allison, Walter A., Philadelphia, Pa.  
Cram Engineering Co., Inc., Baltimore, Md.  
Day & Zimmerman, Inc., Philadelphia, Pa.  
Gassman, Howard M., Birmingham, Ala.  
Hunt Engr. Co., Kansas City, Mo.  
Marsh, Clarence W., New York, N. Y.  
Meade, Richard K., Baltimore, Md.  
Sanderson & Porter, New York, N. Y.  
Weller, Francis R., Washington, D. C.  
Winter & Dove, Ft. Smith, Ark.  
**BLAST FURNACES.**  
McKee & Co., Arthur G., Cleveland, Ohio.  
Smythe Co., The S. R., Pittsburgh, Pa.  
**BRIDGE.**  
Freeland-Kyle Engr. Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Hedrick & Hedrick, Kansas City, Mo.  
Lutan, Daniel B., Indianapolis, Ind.  
Twoood, L. Scott, Memphis, Tenn.  
Waddell & Sons, Kansas City, Mo.  
**CEMENT MILL.**  
Hunt Engr. Co., Kansas City, Mo.  
Lewis, Fred H., Birmingham, Ala.  
Meade, Richard K., Baltimore, Md.  
**CHEMICAL.**  
Burgess & Long, Columbus, Ohio.  
Dorr Co., The, New York, N. Y.  
Dow & Smith, New York, N. Y.  
Emory & Eisenbrey, Philadelphia, Pa.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Little, Inc., Arthur D., Boston, Mass.  
Marsh, Clarence W., New York, N. Y.  
Meade, Richard K., Baltimore, Md.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
Thiele, Ludwig A., Columbus, Ohio.  
**CIVIL.**  
Arnold Co., The, Chicago, Ill.  
Brackett, F. Ernest, Cumberland, Md.  
Clark & Krebs, Charleston, W. Va.  
Emory & Eisenbrey, Philadelphia, Pa.  
Gardner & Howe, Memphis, Tenn.  
Gueringer, L. A., Victoria, Texas.  
Knowles, Morris, Pittsburgh, Pa.  
Lester, J. E., Greenville, S. C.  
Markley, S. Chester, Roanoke, Va.  
McCrory & Co., J. B., Atlanta, Ga.  
Moore & Co., W. E., Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Speed, Wm., Louisville, Ky.  
**DRAINAGE AND IRRIGATION.**  
Cox & Co., Henry J., Alexandria, La.  
Ford, Bacon & Davis, New York, N. Y.  
Knight & Quayle, Chattanooga, Tenn.  
Knowles, Morris, Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Spray Engr. Co., Boston, Mass.  
Weston, Geo. F., New York, N. Y.  
Winter & Dove, Ft. Smith, Ark.  
**EFFICIENCY.**  
Gassman, Howard M., Birmingham, Ala.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Knight & Quayle, Chattanooga, Tenn.  
Little, Inc., Arthur D., Boston, Mass.  
Moore & Co., W. E., Pittsburgh, Pa.  
**ELECTRICAL.**  
Arnold Co., The, Chicago, Ill.  
Cooper & Co., Hugh L., New York, N. Y.  
Crocke-Wheeler Co., Ampere, N. J.  
Frans, Walter G., Cincinnati, O.  
Gassman, Howard M., Birmingham, Ala.  
Graves Engr. Co., Inc., New York, N. Y.  
Kelly, Cooke & Co., Philadelphia, Pa.  
Lewis, Fred H., Birmingham, Ala.  
Lide, Martin J., Birmingham, Ala.  
Mole, H. E., New York, N. Y.  
Moore & Co., W. E., Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Stone & Webster Engr. Corp., Boston, Mass.  
Tucker & Laxton, Charlotte, N. C.  
Westinghouse, Church, Kerr & Co., New York, N. Y.  
White, Gilbert C., Charlotte, N. C.  
**ELECTRIC LIGHT AND POWER PLANTS.**  
Barstow & Co., Inc., W. S., New York, N. Y.  
Byllesby & Co., H. M., Chicago, Ill.  
Cooper & Co., Hugh L., New York, N. Y.  
Cram Engr. Co., Inc., Baltimore, Md.  
Ford, Bacon & Davis, New York, N. Y.  
Gassman, Howard M., Birmingham, Ala.  
Graves Engr. Co., Inc., New York, N. Y.  
Humphrey, C. W., Chicago, Ill.  
Moore & Co., W. E., Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engr. Co., Philadelphia, Pa.  
Stone & Webster Engr. Corp., Boston, Mass.  
Weller, Francis R., Washington, D. C.  
Westinghouse, Church, Kerr & Co., New York, N. Y.  
White Companies, J. G., New York, N. Y.  
White, Gilbert C., Charlotte, N. C.  
**GAS.**  
Allison, Walter A., Philadelphia, Pa.  
Byllesby & Co., H. M., Chicago, Ill.  
Ford, Bacon & Davis, New York, N. Y.  
Sanderson & Porter, New York, N. Y.  
**GEOLOGICAL.**  
Clark & Krebs, Charleston, W. Va.  
Davis, Geo. C., Philadelphia, Pa.  
Freohling & Robertson, Richmond, Va.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Mines Efficiency Co., Duluth, Minn.  
**HYDRO-ELECTRIC.**  
Byllesby & Co., H. M., Chicago, Ill.  
Cooper & Co., Hugh L., New York, N. Y.  
Graves Engr. Co., Inc., New York, N. Y.  
Humphrey, C. W., Chicago, Ill.  
Knowles, Morris, Pittsburgh, Pa.  
Main, Chas. T., Boston, Mass.  
Marsh, Clarence W., New York, N. Y.  
Moore & Co., W. E., Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engr. Co., Philadelphia, Pa.  
Sirrine, J. E., Greenville, S. C.  
Spiker, Wm. C., Atlanta, Ga.  
Tucker & Laxton, Charlotte, N. C.  
White Companies, J. G., New York, N. Y.  
**INDUSTRIAL PLANT.**  
Austin Co., The, Cleveland, O.  
Barstow & Co., Inc., W. S., New York, N. Y.  
Brackett, F. Ernest, Cumberland, Md.  
Brooks Engr. Co., C. L., Moultrie, Ga.  
Cram Engr. Co., Inc., Baltimore, Md.  
Day & Zimmerman, Inc., Philadelphia, Pa.  
Dorr Co., The, New York, N. Y.  
Emory & Eisenbrey, Philadelphia, Pa.  
Gardner & Howe, Memphis, Tenn.  
Gassman, Howard M., Birmingham, Ala.  
Graves Engr. Co., Inc., New York, N. Y.  
Guarantee Const. Co., New York, N. Y.  
Hunt Engr. Co., Kansas City, Mo.  
Humphrey, C. W., Chicago, Ill.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Kelly, Cooke & Co., Philadelphia, Pa.  
Lewis, Fred H., Birmingham, Ala.  
Little, Inc., Arthur D., Boston, Mass.  
McKee & Co., Arthur G., Cleveland, Ohio.  
Main, Chas. T., Boston, Mass.  
Marsh, Clarence W., New York, N. Y.  
Meade, Richard K., Baltimore, Md.  
Moore & Co., W. E., Pittsburgh, Pa.  
O'Brien, W. C., Memphis, Tenn.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engr. Co., Philadelphia, Pa.  
Shearer, C. E., Memphis, Tenn.  
Stanton, Wm. A., Vicksburg, Miss.  
Stone & Webster Engr. Corp., Boston, Mass.  
Twoood, L. Scott, Memphis, Tenn.  
Westinghouse, Church, Kerr & Co., New York, N. Y.  
White Companies, J. G., New York, N. Y.  
Wortham, Edwin, Richmond, Va.  
**INSPECTIONS AND TESTS.**  
Dow & Smith, New York, N. Y.  
Emory & Eisenbrey, Philadelphia, Pa.  
Fort Worth Laboratories, Ft. Worth, Tex.  
Freohling & Robertson, Richmond, Va.  
Hunt & Co., Robert W., Chicago, Ill.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Knight & Quayle, Chattanooga, Tenn.  
Meade, Richard K., Baltimore, Md.  
Moore & Co., W. E., Pittsburgh, Pa.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
**LANDSCAPE.**  
Burnard, Geo., Washington, D. C.  
Speed, Wm., Louisville, Ky.  
**LEVIES.**  
Cox & Co., Henry J., Alexandria, La.  
**LIGHTING.**  
Byllesby & Co., H. M., Chicago, Ill.  
Ford, Bacon & Davis, New York, N. Y.  
McCrory & Co., J. B., Atlanta, Ga.  
Moore & Co., W. E., Pittsburgh, Pa.  
**MECHANICAL.**  
Arnold Co., The, Chicago, Ill.  
Barstow & Co., Inc., W. S., New York, N. Y.  
Cram Engr. Co., Inc., Baltimore, Md.  
Emory & Eisenbrey, Philadelphia, Pa.  
Frans, Walter G., Cincinnati, O.  
Gassman, Howard M., Birmingham, Ala.  
Graves Engr. Co., Inc., New York, N. Y.  
Hunt Engr. Co., Kansas City, Mo.  
**METALLURGICAL.**  
Dorr Co., The, New York, N. Y.  
Mines Efficiency Co., Duluth, Minn.  
**MINING.**  
Brackett, F. Ernest, Cumberland, Md.  
Clark & Krebs, Charleston, W. Va.  
Emory & Eisenbrey, Philadelphia, Pa.  
Johnston Jr., A., Langstaff, Richmond, Va.  
Mines Efficiency Co., Duluth, Minn.  
**MUNICIPAL.**  
Clark & Krebs, Charleston, W. Va.  
Dow & Smith, New York, N. Y.  
Eliot, Henry Exall, Dallas, Texas.  
Graves Engineering Co., Inc., New York, N. Y.  
Gueringer, L. A., Victoria, Texas.  
Kelly, Cooke & Co., Philadelphia, Pa.  
Knight & Quayle, Chattanooga, Tenn.  
Knowles, Morris, Pittsburgh, Pa.  
Markley, S. Chester, Roanoke, Va.  
McCrory & Co., J. B., Atlanta, Ga.  
Moore & Co., W. E., Pittsburgh, Pa.  
Twoood, L. Scott, Memphis, Tenn.  
White, Gilbert C., Durham, N. C.  
Winter & Dove, Ft. Smith, Ark.  
**PACKING HOUSE.**  
Brooks, C. L., Engineering Co., Moultrie, Ga.  
**PAVING AND ROAD.**  
Dow & Smith, New York, N. Y.  
Eliot, Henry Exall, Dallas, Texas.  
Freeland-Kyle Engr. Co., Nashville, Tenn.  
Gueringer, L. A., Victoria, Texas.  
Institute of Indust. Resch., Inc., Washington, D. C.  
Speed, Wm., Louisville, Ky.  
White, Gilbert C., Durham, N. C.  
**PUBLIC SERVICE PROPERTIES.**  
Barstow & Co., Inc., W. S., New York, N. Y.  
Byllesby & Co., H. M., Chicago, Ill.  
Cooper & Co., Hugh L., New York, N. Y.  
Cram Engr. Co., Inc., Baltimore, Md.  
Day & Zimmerman, Inc., Philadelphia, Pa.  
Ford, Bacon & Davis, New York, N. Y.  
Graves Engineering Co., Inc., New York, N. Y.  
Kelly, Cooke & Co., Philadelphia, Pa.  
Moore & Co., W. E., Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Philadelphia, Pa.  
Stone & Webster Engr. Corp., Boston, Mass.  
Weller, Francis R., Washington, D. C.  
Westinghouse, Church, Kerr & Co., New York, N. Y.  
White Companies, J. G., New York, N. Y.  
Wortham, Edwin, Richmond, Va.  
**RAILROAD.**  
Brackett, F. Ernest, Cumberland, Md.  
Clark & Krebs, Charleston, W. Va.  
Hunt & Co., Robert W., Chicago, Ill.  
Humphrey, C. W., Chicago, Ill.  
Speed, Wm., Louisville, Ky.  
Wortham, Edwin, Richmond, Va.  
**REFRIGERATING.**  
Brooks Engineering Co., C. L., Moultrie, Ga.  
**REINFORCED CONCRETE.**  
(Bridges, Buildings, etc.)  
Freeland-Kyle Engr. Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Guarantee Construction Co., New York, N. Y.  
Gueringer, L. A., Victoria, Texas.  
Luten, Daniel B., Indianapolis, Ind.  
Savannah Engr. & Construction Co., Savannah, Ga.  
Spiker, William C., Atlanta, Ga.  
Stanton, Wm. A., Vicksburg, Miss.  
Tucker & Laxton, Charlotte, N. C.  
White Companies, J. G., New York, N. Y.  
**SEWERAGE AND WATER-WORKS.**  
Barstow & Co., W. S., New York, N. Y.  
Brackett, F. Ernest, Cumberland, Md.  
Ford, Bacon & Davis, New York, N. Y.  
Frans, Walter G., Cincinnati, Ohio.  
Knight & Quayle, Chattanooga, Tenn.  
Knowles, Morris, Pittsburgh, Pa.  
Markley, S. Chester, Roanoke, Va.  
Moore & Co., W. E., Pittsburgh, Pa.  
Myers, E. W., Greensboro, N. C.  
Sanderson & Porter, New York, N. Y.  
Speed, Wm., Louisville, Ky.  
Twoood, L. Scott, Memphis, Tenn.  
White Companies, J. G., New York, N. Y.  
White, Gilbert C., Durham, N. C.  
Winter & Dove, Ft. Smith, Ark.  
**STEEL WORK AND ROLLING MILLS.**  
Smythe Co., The S. R., Pittsburgh, Pa.  
**STRUCTURAL STEEL.**  
Freeland-Kyle Engr. Co., Nashville, Tenn.  
Hedrick & Hedrick, Kansas City, Mo.  
Shearer, C. E., Memphis, Tenn.  
Spiker, Wm. C., Atlanta, Ga.  
Stanton, Wm. A., Vicksburg, Miss.  
**Engines. COMPRESSED AIR.**  
Dake Engine Co., Grand Haven, Mich.  
**GAS AND GASOLINE.**  
Allis-Chalmers Manufacturing Co., Milwaukee, Wis.  
Cooper Co., C. & G., Mt. Vernon, Ohio.  
De La Vergne Machine Co., New York, N. Y.  
Foss Gas Engine Co., Springfield, O.  
Ideal Engine Co., Lansing, Mich.  
Miets Corp., August, New York, N. Y.  
National Transit Pump & Machine Co., Oil City, Pa.  
Remington Oil Eng. Co., New York, N. Y.  
**OIL.**  
Chicago-Pneumatic Tool Co., Chicago, Ill.  
De La Vergne Machine Co., New York, N. Y.  
Diamond Iron Wks., Minneapolis, Minn.  
Foss Gas Engine Co., Springfield, O.  
Johnston & Jennings Co., Cleveland, O.  
Miets Corp., August, New York, N. Y.  
Moore & Sons Corp., Samuel L., Elizabeth, N. J.  
Muncie Oil Engine Co., Muncie, Ind.  
National Transit Pump & Machine Co., Oil City, Pa.  
Remington Oil Eng. Co., New York, N. Y.  
Worthington Pump & Mch. Co., New York, N. Y.  
**STEAM.**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Ball Engine Co., Erie, Pa.  
Buffalo Forge Co., Buffalo, N. Y.  
Cameron & Barclay Co., Charleston, S. C.  
Clark Bros. Co., Olean, N. Y.  
Cooper Co., C. & G., Mt. Vernon, O.  
Harris Bros. Co., Chicago, Ill.  
Hardy-Tynes Mfg. Co., Birmingham, Ala.  
Houston, Stanwood & Gamble Co., Cincinnati, O.  
Leffel & Co., James, Springfield, O.  
Lombard Iron Works, Augusta, Ga.  
Mackinburg Iron Works, Charlotte, N. C.  
Morris Mach. Wks., Baldwinville, N. Y.  
Murray Iron Works Co., Burlington, Ia.  
Nagle Corless Engine Wks., Erie, Pa.  
National Transit Pump & Mach. Co., Oil City, Pa.  
Scotfield Engr. Wks., Macon, Ga.  
Vilter Mfg. Co., Milwaukee, Wis.  
**Envelopes.**  
Young & Selden Co., Baltimore, Md.
- Excavating Machinery.**  
American Clay Mch. Co., The, Bucyrus, O.  
Bay City Dredge Wks., Bay City, Mich.  
Byers Mach. Co., The, John F., Ravenna, O.  
Fairbanks Steam Shovel Co., Marion, O.  
Hayward Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Keystone Driller Co., Beaver Falls, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Mansfield Eng. Co., Indianapolis, Ind.  
Monaghan Mach. Co., Chicago, Ill.  
Morris Mach. Wks., Baldwinville, N. Y.  
Osgood Co., The, Marion, O.  
Owen Bucket Co., The, Cleveland, O.  
Sauerma Bros., Chicago, Ill.
- Excavators.**  
**CABLEWAY DRAGLINE.**  
Mansfield Eng. Co., Indianapolis, Ind.  
Sauerma Bros., Chicago, Ill.
- TRENCH.**  
Bay City Dredge Works, Bay City, Mich.  
Fairbanks Steam Shovel Co., Marion, O.  
Hayward Co., The, New York, N. Y.  
Keystone Driller Co., Beaver Falls, Pa.  
Monaghan Machine Co., Chicago, Ill.
- Excelsior Machinery.**  
Kline, Lewis T., Alpena, Mich.
- Exhaust Heads.**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
American Spiral Pipe Works, Chicago, Ill.
- Expanded Metal Lath and Reinforcing.**  
Consolidated Expanded Metal Co's., Braddock, Pa.
- Expansion Jo'nts. (Street and Road.)**  
Pioneer Asphalt Co., Lawrenceville, Ill.
- Explosives.**  
Actna Explosives Co., Inc., New York, N. Y.  
Atlas Powder Co., Wilmington, Del.  
Du Pont de Nemours & Co., E. I., Wilmington, Del.  
Hercules Powder Co., Wilmington, Del.
- Exporters.**  
Burgess & Co., D. H., Petersburg, Va.
- Factory Sites. (Town and Railroad.)** [See Industrial, Agricultural and Commercial Opportunities.]  
Martien & Co., Wm., Baltimore, Md.  
South San Antonio Industrial Co., San Antonio, Tex.
- Feed-Water Heaters and Purifiers.**  
American Water Softener Co., Philadelphia, Pa.  
Murray Iron Works Co., Burlington, Ia.  
Platt Iron Works, Dayton, O.  
Worthington Pump & Mch. Co., New York, N. Y.
- Felt. (Building Sheathing.)**  
Barrett Co., New York, N. Y.
- Felt Parts. (Mechanical Purposes.)**  
Booth Felt Co., Inc., Brooklyn, N. Y.
- Fencing.**  
**CORRUGATED, GALVANIZED, CONCRETE.**  
Amer. Sheet & Tin Plate Co., Pittsburgh, Pa.  
**WOVEN WIRE FENCE.**  
American Steel & Wire Co., Chicago, Ill.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
Stewart Iron Works Co., Cincinnati, O.
- Fencing, Entrance Gates. (Iron, Steel, Wire.)**  
American Steel & Wire Co., Chicago, Ill.  
Bolles Iron & Wire Wks., J. E., Detroit, Mich.  
Cyclone Fence Co., Waukegan, Ill.  
Dow Wire & Iron Works, Inc., Louisville, Ky.  
Dufur & Co., Baltimore, Md.  
New Jersey Wire Cloth Co., Trenton, N. J.  
Stewart Iron Works Co., Cincinnati, O.  
Van Dorn Iron Works Co., The, Cleveland, O.
- Fertilizer Machy.**  
Bradley Pulverizer Co., Ashtown, Pa.  
K-B Pulverizer Co., Inc., New York, N. Y.  
Sturtevant Mill Co., Boston, Mass.  
Valk & Murdoch Co., Charleston, S. C.
- Files.**  
Barnett Co., G. & H., Philadelphia, Pa.  
Nicholson File Co., Providence, R. I.
- Filters. (For Domestic and Ind. Purposes.)**  
American Water Softener Co., Philadelphia, Pa.  
International Filter Co., Chicago, Ill.  
New York City Jewell Fil. Co., New York, N. Y.  
Pittsburgh Filter Mfg. Co., Pittsburgh, Pa.  
Richmond Water Softening Co., Richmond, Ind.  
Seale & Sons Co., Wm. B., Pittsburgh, Pa.
- Financing.**  
Citizens Co., Inc., The, Baltimore, Md.  
Electric Bond & Share Co., New York, N. Y.  
National City Co., New York, N. Y.  
Rosenbaum & Co., L. N., New York, N. Y.  
Townsend Scott & Son, Baltimore, Md.
- Fire Clay Fine Linings.**  
Stevens Bros. & Co., Stevens Pottery, Ga.
- Fire Escapes.**  
Holles Iron & Wire Wks., J. E., Detroit, Mich.  
Chattanooga Rfg. & Fdy. Co., Chattanooga, Tenn.  
Chesapeake Iron Works, Baltimore, Md.
- Fire Extinguishers.**  
Michael & Hivens, Gaston, N. C.
- Fire Hose.**  
Eureka Fire Hose Mfg. Co., New York, N. Y.
- Fire Places. (Brick and Tile.)**  
Hood Brick Co., B. Miffin, Atlanta, Ga.
- Fireproof Building Material.**  
Asbestos Protected Metal Co., Pittsburgh, Pa.  
Bannon Pipe Co., Ft. Louisville, Ky.  
Berger Mfg. Co., Canton, Ohio.
- Fireproof Doors and Shutters.**  
Dahlstrom Metallic Door Co., New York, N. Y.  
Kinneer Mfg. Co., Columbus, O.  
Merchant & Evans Co., Philadelphia, Pa.  
Wagner's Sons Co., J. F., Louisville, Ky.
- Fireproofing. (Brick and Tile.)**  
Hood Brick Co., B. Miffin, Atlanta, Ga.
- Fire Sprinkling Systems.**  
Globe Automatic Sprinkler Co., Phila., Pa.
- Fittings. (Wire Rop.)**  
Waterbury Co., New York, N. Y.
- Flag Poles. (Iron.)**  
Meyers Mfg. Co., Fred J., Hamilton, Ohio.
- Flanges. (Iron and Steel.)**  
American Cast Iron Pipe Co., Birmingham, Ala.  
American Pipe & Const. Co., Philadelphia, Pa.  
American Spiral Pipe Works, Chicago, Ill.  
Dart Mfg. Co., E. M., Providence, R. I.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.  
Wood & Co., R. D., Philadelphia, Pa.



- Flooring.**  
COMPOSITION.  
Johns-Manville Co., H. W., New York, N. Y.  
CREOSOTED BL.  
Republic Creosoting Co., Indianapolis, Ind.  
HARDWOOD, MAPLE, OAK.  
Whiting, Wm. B., Elizabethton, Tenn.  
Floor Hardener. (For Concrete.)  
Master Builders Co., The Cleveland O.  
Sennelbush Bros., Inc., L., New York, N. Y.  
Floor Plugs  
Van Dorn Iron Works Co., The, Cleveland, O.  
Flour and Grist Mill Machinery and Supplies.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Starr Co., B. F., Baltimore, Md.  
Wolf Co., Chambersburg, Pa.  
Flue Lining.  
Macon Sewer Pipe Wks., Macon, Ga.  
Owensboro Sewer Pipe Co., Owensboro, Ky.  
Forges.  
Buffalo Forge Co., Buffalo, N. Y.  
Forgings.  
American Forging Co., Birmingham, Ala.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Camden Forge Co., Camden, N. J.  
Forms, Steel. (For Concrete, Culverts, Roads, Streets, Sidewalks, Tiles, etc.)  
Northwestern Steel & Iron Wks., Eau Claire, Wis.  
Foundry Equipment and Supplies.  
Clifton-Pratt Co., The, Cincinnati, O.  
Hill-Branner Fdry. Supply Co., Cincinnati, O.  
Foundry Facings. (Tale and Soapstone.)  
DeSoto Tale Co., The, Chatsworth, Ga.  
Georgia Tale Co., Asheville, N. C.  
Hill-Branner Fdry. Supply Co., Cincinnati, O.  
Foundry and Machine Shops.  
Altavista Foundry Co., Altavista, Va.  
Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
Golden's Foundry & Machine Wks., Columbus, Ga.  
Gyro Metal Works, Norfolk, Va.  
Hardie-Tynes Mfg. Co., Birmingham, Ala.  
Jannet & Co., Montgomery, Ala.  
Lombard Iron Works, Augusta, Ga.  
Reilly Mfg. Co., J. J., Louisville, Ky.  
Rome Mfg. & Fdry. Co., Rome, Ga.  
Salem Foundry & Machine Works, Salem, Va.  
Schmidt's Sons Co., J. S., Macon, Ga.  
Standard Iron Works, Spartanburg, S. C.  
Stratton & Bragg Co., Petersburg, Va.  
Titus, E. E., Petersburg, Va.  
Valk & Murdoch Co., Charleston, S. C.  
Wilmington Iron Works, Inc., Wilmington, N. C.  
Fountain. (Drinking-Factory, Office, etc.)  
Ehinger Sanitary Mfg. Co., D. A., Columbus, Ohio.  
Fuel Economizer.  
Green Fuel Economizer Co., New York, N. Y.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.  
Fuel Oil.  
Coden & Co., Tulsa, Okla.  
Gulf Refining Co., Pittsburgh, Pa.  
Sapulpa Refining Co., Sapulpa, Okla.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The, New York, N. Y.  
U. S. Asphalt Refining Co., New York, N. Y.  
Furnaces. (For Industrial Purposes.)  
Smythe Co., The, S. E., Pittsburgh, Pa.  
Furniture. (Metal.)  
The Van Dorn Iron Works Co., Cleveland, O.  
Fuses. (Electrical.)  
Johns-Manville Co., H. W., New York, N. Y.  
Galvanized Steel and Iron.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
La Belle Iron Works, Steubenville, O.  
McCalla Co., Harold, Philadelphia, Pa.  
Whitaker-Glessner Co., Portsmouth, N. C.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.  
Gal. an' zing.  
Hanson-Gregory Galvanizing Co., Pittsburgh, Pa.  
Garage and House. (Portable.)  
Steel Products Co., The, Savannah, Ga.  
Garbage Reduction Machinery.  
Bartlett & Snow Co., C. O., Cleveland, O.  
Gas Machines.  
Kemp Mfg. Co., C. M., Baltimore, Md.  
Milburn Co., Alex., Baltimore, Md.  
Gas Plants.  
Morgan Const. Co., Worcester, Mass.  
Gas Producers.  
Morgan Const. Co., Worcester, Mass.  
Smythe Co., The, S. E., Pittsburgh, Pa.  
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.  
Wood & Co., R. D., Philadelphia, Pa.  
Gasoline and Kerosene.  
Gulf Refining Co., Pittsburgh, Pa.  
Sapulpa Refining Co., Sapulpa, Okla.  
Standard Oil Co. of Louisiana, Baton Rouge, La.  
Texas Co., The, New York, N. Y.  
Gear Cutting.  
Gyro Metal Works, Norfolk, Va.  
Gears.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Cresson-Morris Co., Philadelphia, Pa.  
Gerdes & Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Generating Sets.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.  
Geologists.  
Davis, George C., Philadelphia, Pa.  
Freuchling & Robertson, Richmond, Va.  
Mines Efficiency Co., Duluth, Minn.  
Glass. (Plate, etc.)  
Bisnawanger & Co., Memphis, Tenn.  
Hires Turner Glass Co., Washington, D. C.  
Glazing Construction.  
Asbestos Protected Metal Co., Pittsburgh, Pa.  
Governors. (Steam Engine.)  
Pickering Governor Co., Portland, Conn.  
Grain Elevator Supplies.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Jeffrey Mfg. Co., Columbus, O.  
Grain Paving Blocks.  
Granite Paving Block Mfrs. Assn., Boston, Mass.  
Graphite.  
Dixon Crucible Co., Joseph, Jersey City, N. J.  
Grates and Grate Bars.  
Thomas Grate Bar Co., Birmingham, Ala.  
Vogt Mch. Co., Henry, Louisville, Ky.  
Gravel. (Roofing and Road.)  
American Ballast Co., Knoxville, Tenn.  
Arundel Sand & Gravel Co., Baltimore, Md.  
Cook & Laurie Gravel Co., Montgomery, Ala.  
Crescent one River Navigation Co., Victoria, Texas.  
Macon Fuel & Supply Co., Macon, Ga.  
Gravity Spiral Chutes.  
Avery-Ferguson Co., Cincinnati, Ohio.  
Dow Wire & Iron Wks., Inc., Louisville, Ky.  
Mathews Gravity Carrier Co., Ellwood City, Pa.  
Grease.  
Albany Lubricating Co., New York, N. Y.  
Standard Oil Co. of La., Baton Rouge, La.
- Grease Cups.**  
Albany Lubricating Co., New York, N. Y.  
Lunkenheimer Co., The, Cincinnati, O.  
Grease d Lubricating Compounds.  
Albany Lubricating Co., New York, N. Y.  
Borne, Strymer Co., New York, N. Y.  
Robinson & Son Co., Wm. C., Baltimore, Md.  
Standard Oil Co. of Louisiana, Baton Rouge, La.  
Texas Co., The, New York, N. Y.  
Grinders. (Gypsum, Limestone, etc.)  
Bradley Pulverizer Co., Allentown, Pa.  
Lehigh Car, Wheel and Axle Wks., Catsaunus, Pa.  
Sturtevant Mill Co., Boston, Mass.  
Williams Patent Crusher & Pulv. Co., Chicago, Ill.  
Grinding Wheels.  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.  
Grommets and Washers.  
Stimpson Co., Edwin P., Brooklyn, N. Y.  
Groovers.  
Huth Bros. Saw Mfg. Co., Inc., Rochester, N. Y.  
Gunpowder.  
Acta Explosive Co., Inc., New York, N. Y.  
Atlas Powder Co., Wilmington, Del.  
Du Pont de Nemours & Co., E. I., Wilmington, Del.  
Hercules Powder Co., Wilmington, Del.  
Hammers. (Belt or Motor Driven.)  
Bedbury & Co., Inc., Boston, Mass.  
Hammers. (Steam, Pump, Pneumatic.)  
Ingersoll-Rand Co., New York, N. Y.  
Harbor Improvements.  
Atlantic, Gulf & Pacific Co., New York, N. Y.  
Hard Iron Stars.  
Fanner Mfg. Co., The, Cleveland, Ohio.  
Hay Tools.  
Myers & Bros., F. E., Ashland, Ohio.  
Heaters. (Asphalt.)  
Cummer & Son Co., F. D., The, Cleveland, Ohio.  
East Iron & Machine Co., Lima, O.  
Heating Apparatus, Engineers and Contractors.  
Allen Scales Eng. Co., Inc., Nashville, Tenn.  
Buffalo Steam Pump Co., Buffalo, N. Y.  
Clairage Fan Co., Kalamazoo, Mich.  
Hammond Heating Co., Cincinnati, Ohio.  
Ruggles-Coles Engineering Co., York, Pa.  
Sturtevant, B. F., Hyde Park, Boston, Mass.  
Hoisting Machinery.  
Byers Machine Co., The, John F., Ravenna, Ohio.  
Deke Engine Co., Grand Haven, Mich.  
Flory Mfg. Co., S., Bangor, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Mead-Morrison Mfg. Co., East Boston, Mass.  
Monaghan Machine Co., Chicago, Ill.  
New Bern Iron Wks. & S. Co., Inc., New Bern, N. C.  
Stroudsburg Engine Works, Stroudsburg, Pa.  
Hoists.  
CHAIN.  
Deke Engine Co., Grand Haven, Mich.  
Ford Chain Block & Mfg. Co., Philadelphia, Pa.  
Speidel, J. G., Reading, Pa.  
Wright Mfg. Co., Lisbon, O.  
Yale & Towne Mfg. Co., New York, N. Y.  
ELECTRIC.  
Lidgerwood Mfg. Co., New York, N. Y.  
Mead-Morrison Mfg. Co., East Boston, Mass.  
Monaghan Machine Co., Chicago, Ill.  
Otis Elevator Co., New York, N. Y.  
Patten Mfg. Co., Chattanooga, Tenn.  
Yale & Towne Mfg. Co., New York, N. Y.  
GASOLINE.  
Patten Mfg. Co., Chattanooga, Tenn.  
STEAM.  
American Cement Mch. Co., Inc., Keokuk, Iowa.  
Byers Mach. Co., John F., Ravenna, O.  
Deke Engine Co., Grand Haven, Mich.  
Flory Mfg. Co., S., Bangor, Pa.  
Lidgerwood Mfg. Co., New York, N. Y.  
Stroudsburg Engine Wks., Stroudsburg, Pa.  
Hollow Building Tile.  
Oconee Brick & Tile Co., Milledgeville, Ga.  
Hoops, Bands, Etc. (Galvanized.)  
McCalla Co., Harold, Philadelphia, Pa.  
Hose.  
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.  
Goodyear Tire & Rubber Co., Akron, O.  
Hotels.  
Hotel Essex, Boston, Mass.  
Murphy's Hotel, Richmond, Va.  
Selwyn Hotel, Charlotte, N. C.  
Houses.  
MULTIPLE PRESSED STEEL.  
Trussed Concrete Steel Co., Youngstown, O.  
Hulls. (Steel, for Boats and Barges.)  
American Bridge Co., New York, N. Y.  
Humidity Regulation.  
Carrier Eng. Corp., New York, N. Y.  
Humidifying Apparatus.  
Carrier Engineering Corp., New York, N. Y.  
Hydrants.  
Bourbon Copper & Brass Wks. Co., Cincinnati, O.  
Columbian Iron Wks., Chattanooga, Tenn.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Myers & Bros., F. E., Ashland, O.  
Wood & Co., R. D., Philadelphia, Pa.  
Hydraulic Giants.  
American Spiral Pipe Works, Chicago, Ill.  
Hydrogen.  
Linde Air Products Co., The, New York City  
Ice and Refrigerating Boxes.  
Brecht Co., The, St. Louis, Mo.  
Ice-making Machinery and Supplies.  
Brecht Co., The, St. Louis, Mo.  
De La Vergne Mach. Co., New York, N. Y.  
Frick Co., Waynesboro, Pa.  
Vilter Mfg. Co., Milwaukee, Wis.  
Vogt Bros. Mfg. Co., Louisville, Ky.  
Vogt Machine Co., Inc., Henry, Louisville, Ky.  
York Mfg. Co., York, Pa.  
Importers.  
Burgess & Co., D. H., Petersburg, Va.  
Incorporators. (Companies.)  
Delaware Registration Trust Co., Wilmington, Del.  
Industrial, Agricultural and Commercial Opportunities.  
CITIES, TOWNS, COMMERCIAL ORGANIZATIONS, ETC.  
Board of Trade, Hopewell, Va.  
Brevard Club, Brevard, N. C.  
Charleston, S. C., North Charleston Corporation.  
Newport News, Va., Old Dominion Land Co.  
San Antonio, Tex., South San Antonio Industrial Co.  
RAILROADS.  
Atlantic Coast Line, Wilmington, N. C.  
Atlanta & West Point R. R., Atlanta, Ga.  
Carolina, Clinchfield & O. Ry., Johnson City, Tenn.  
Central of Ga. Ry., Savannah, Ga.  
Florida East Coast Ry., St. Augustine, Fla.  
Georgia Railroad, Atlanta, Ga.  
Illinois Central Railroad Co., Chicago, Ill.  
Norfolk & Western Ry., Roanoke, Va.  
Richmond-Washington Line, Richmond, Va.  
Seaboard Air Line, Norfolk, Va.  
Southern Railway System, Washington, D. C.  
Winton-Salem Southbound Ry. Co., Winston-Salem, N. C.
- Infectors.**  
Jenkins Bros., New York, N. Y.  
Lunkenheimer Co., The, Cincinnati, O.  
Randle Machine Co., Cincinnati, Ohio.  
Sellers & Co., Inc., Wm., Philadelphia, Pa.  
Instruments. (Electrical.)  
Weston Electrical Instrument Co., Newark, N. J.  
Insulating Materials.  
General Electric Co., Schenectady, N. Y.  
Johns-Manville Co., H. W., New York, N. Y.  
Insulation. (Wooden for Steam Pipes, etc.)  
Ric-Wil Co., The, Cleveland, O.  
Insurance.  
Hartford Steam Boiler Inspection and Insurance Co., Hartford, Conn.  
Jemison Real Estate & Insurance Co., Birmingham, Ala.  
Interior Conduits.  
National Metal Molding Co., Pittsburgh, Pa.  
Interior Trim. (Metallic.)  
Dahlstrom Metallic Door Co., New York, N. Y.  
Investments. (Real Estate.)  
Jemison Real Est. & Ins. Co., Birmingham, Ala.  
Investment Securities.  
Cummings, Prudden & Co., Toledo, O.  
Edwards, Geo. B., New York, N. Y.  
Electric Bond & Share Co., New York, N. Y.  
Gunter & Co., Little Rock, Ark.  
Kleybort Co., Rudolph, Cincinnati, Ohio.  
Law & Co., A. M., Spartanburg, S. C.  
Leach & Co., A. B., New York, N. Y.  
Mercantile Trust Co., St. Louis, Mo.  
Mercantile Trust & Deposit Co., Baltimore, Md.  
National City Co., The, New York, N. Y.  
New First National Bank, Columbus, Ohio.  
Noyes & Co., John, Chicago, Ill.  
Orthwein, Walter E., St. Louis, Mo.  
Powell, Gayard & Co., Chicago, Ill.  
Provident Savings Bank & Trust Co., Cincinnati, O.  
Ridenour Co., Hugh, Columbus, O.  
Scott, Townsend & Son, Baltimore, Md.  
Sidney Spitzer & Co., Toledo, O.  
Slayton & Co., W. L., Toledo, O.  
Stacey & Braun, Toledo, O.  
Iron.  
Allegheny Steel Co., Pittsburgh, Pa.  
Bourne-Fuller Co., The, Cleveland, O.  
La Belle Iron Works, Steubenville, O.  
Republic Iron & Steel Co., Youngstown, O.  
Roanoke Steel Co., Inc., Roanoke, Va.  
Taylors Co., Wm. S., Chattanooga, Tenn.  
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.  
Union Drawn Steel Co., Beaver Falls, Pa.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
Iron Fencing.  
Stewart Iron Works Co., Cincinnati, Ohio.  
Irrigation Machinery.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Joist Hangers.  
Van Dorn Iron Works Co., The, Cleveland, Ohio.  
Knitting Machinery.  
Scott & Williams, New York, N. Y.  
Lace Leather.  
Graton & Knight Mfg. Co., Worcester, Mass.  
Ladders. (Rolling.)  
Myers & Bros., F. E., Ashland, Ohio.  
Lamps. (Arc and Incandescent.)  
Boston-Economy Lamp Division, National Lamp Works of General Electric Co., Danvers, Mass.  
General Electric Co., Schenectady, N. Y.  
Piedmont Electric Co., Asheville, N. C.  
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.  
Westinghouse Lamp Co., New York, N. Y.  
Lamps. (Carbon and Tungsten.)  
Newman Electric Lamp Co., Cincinnati, Ohio.  
Lath. (Metal.)  
Berger Mfg. Co., Canton, Ohio.  
Consolidated Expanded Metal Co's., Braddock, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.  
Lawn Furniture. (Wire.)  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
Dufur & Co., Baltimore, Md.  
Dufur, Baggett & Co., Baltimore, Md.  
Ledges. (Loose Leaf.)  
Irving-Pitt Mfg. Co., Kansas City, Mo.  
Lighting Arresters. (Transmission Lines.)  
Railway and Industrial Engr. Co., Pittsburgh, Pa.  
Lights. (Portable Acetylene.)  
Milburn Co., Alex., Baltimore, Md.  
Liquor Filters.  
International Filter Co., Chicago, Ill.  
Lithographers, Engravers.  
Young & Selden Co., Baltimore, Md.  
Loans.  
Rosenbaum & Co., L. N., New York, N. Y.  
Lockers.  
STEEL.  
Burger Mfg. Co., Canton, Ohio.  
Collins, J. D., Atlanta, Ga.  
Keighley Metal Cell. & Mfg. Co., S. Pittsburgh, Pa.  
Van Harlingen, J. M., Atlanta, Ga.  
Locomotives.  
INDUSTRIAL.  
Baldwin Locomotive Wks., The, Philadelphia, Pa.  
Climax Mfg. Co., Corry, Pa.  
Jeffrey Mfg. Co., Columbus, O.  
Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta, Ga.  
RAILWAY.  
Baldwin Locomotive Wks., The, Philadelphia, Pa.  
Porter Co., H. K., Pittsburgh, Pa.  
Looms and Weaving Machinery.  
Crompton & Knowles Loom Wks., Worcester, Mass.  
Draper Corp., Hopedale, Mass.  
Saco-Lowell Shops, Boston, Mass.  
Lubricants.  
Albany Lubricating Co., New York, N. Y.  
Borne, Strymer Co., New York, N. Y.  
Otis Elevator Co., New York, N. Y.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The, New York, N. Y.  
Lubricants. (Graphite.)  
Dixon Crucible Co., Joseph, Jersey City, N. J.  
Lumber.  
CEILING, FLOORING, SIDINGS.  
Bacon & Sons, A. B., Savannah, Ga.  
Cordele Sash, Door & Lumber Co., Cordele, Ga.  
CREOSOTED.  
American Creosote Works, New Orleans, La.  
Creosoted Materials Co., Inc., New Orleans, La.  
HEAVY CONSTRUCTION, PITCH PINE, ETC.  
Bacon & Sons, A. B., Savannah, Ga.  
Industrial Lumber Co., Elizabeth, La.  
YELLOW PINE.  
Bacon & Sons, A. B., Savannah, Ga.  
Industrial Lumber Co., Elizabeth, La.  
Lumber Buggies.  
Soule Steam Feed Works, Meridian, Miss.
- Lumber Stackers.**  
Soule Steam Feed Works, Meridian, Miss.  
Machinery. (Special.)  
American Machine & Fdry. Co., Brooklyn, N. Y.  
Bliss Co., E. W., Brooklyn, N. Y.  
Chattanooga Mch. Co., Chattanooga, Tenn.  
Clark Bros. Co., Olean, N. Y.  
Columbus Iron Works Co., Columbus, Ga.  
Kline, Louis T., Alpena, Mich.  
Moore Bros., Indianapolis, Ind.  
Salem Foundry & Machine Wks., Salem, Va.  
Standard Iron Works, Spartanburg, S. C.  
Stratton & Bragg Co., Petersburg, Va.  
Withers Fdry. & Mch. Works, Atlanta, Ga.  
Machinery and Supplies. (New and Second-hand Bargains.)  
Arringer Mch. Co., W. O., Nashville, Tenn.  
Birtwell, W. L., Philadelphia, Pa.  
Blount & Co., J. L., Birmingham, Ala.  
Boston Iron & Metal Co., Inc., Baltimore, Md.  
Carey Co., Thos. F., New York, N. Y.  
Cleveland Belting & Machinery Co., Cleveland, O.  
Clifton-Pratt Co., The, Cincinnati, O.  
Contractors Mchry. & Supply Co., Pittsburgh, Pa.  
Eagle Pipe Supply Co., Inc., New York, N. Y.  
Easton Machinery Co., Easton, Pa.  
Empire Cement & Limestone Co., Atlanta, Ga.  
Empire Mchry. & Supply Corp., Norfolk, Va.  
Gardner, Inc., James T., Chicago, Ill.  
Harris Bros. Co., Chicago, Ill.  
Hirsch & Sons Mercantile Co., Cal., St. Louis, Mo.  
Hitner's Sons Co., Henry A., Philadelphia, Pa.  
Hobart Engine Sales Co., New York, N. Y.  
International Equipment Co., Chicago, Ill.  
Joseph Iron Co., Isaacs, Cincinnati, Ohio.  
Jewel Supply & Equipment Co., Inc., Baltimore, Md.  
Kerbugh, Inc., H. S., New York, N. Y.  
Keystone Pipe & Supply Co., Butler, Pa.  
Klein & Co., Nathan, New York, N. Y.  
Lehman, Chas. T., Birmingham, Ala.  
Lewis Co., Ralph H., Philadelphia, Pa.  
Lodge & Shipley Machine Tool Co., Cincinnati, Ohio.  
Males Co., The, New York, N. Y.  
Marine Metal & Supply Co., New York, N. Y.  
Marsh & Co., Geo. G., Chicago, Ill.  
Meadley Mchry. & Exchange, New York, N. Y.  
Morrison, Hackley, Richmond, Va.  
Mottet's Sons, Geo. F., York, Pa.  
National Machinery & Wrecking Co., Cleveland, Ohio.  
New York Machinery Exchange, New York, N. Y.  
Niskaum & Co., V. M., Ft. Wayne, Ind.  
O'Brien Machinery Co., Philadelphia, Pa.  
Patek, Alfred, Chicago, Ill.  
Pfanmuller Engineering Co., Chicago, Ill.  
Phelan, Joseph P., Fall River, Mass.  
Pipe & Contractors Supply Co., New York, N. Y.  
Pitts & Co., Henry, Philadelphia, Pa.  
Power Machinery Exchange, Jersey City, N. J.  
Prentiss & Co., Inc., Henry, New York, N. Y.  
Price & Pratt, Norfolk, Va.  
Randle Machinery Co., Cincinnati, O.  
Read Co., Howard W., Philadelphia, Pa.  
Sachemmer & Co., Geo., Philadelphia, Pa.  
Sandler Bros., Inc., Baltimore, Md.  
Seiffert's Sons, Inc., L. E., Philadelphia, Pa.  
Shapiro, B., Baltimore, Md.  
Shaw, Willis, Chicago, Ill.  
Southern Machinery Exchange, Somerset, Ky.  
South End Fdry. & Mch. Wks., Charleston, W. Va.  
Southwestern Mchry. Co., Ft. Smith, Ark.  
Stark Co., S. L., Pittsburgh, Pa.  
Sterling Iron & Steel Co., Philadelphia, Pa.  
Stewart, B. J. (Electric), New Orleans, La.  
Tampa Machinery Exchange, Tampa, Fla.  
Tampa Power & Light Co., Dunell, Tex.  
Toomey, Frank, Inc., Philadelphia, Pa.  
United States Equipment Co., Chicago, Ill.  
Weller & Co., Birmingham, Ala.  
Whayne Supply Co., Roy C., Louisville, Ky.  
Whitaker-Glessner Co., Portsmouth, N. C.  
Wilson Mchry. Co., St. Louis, Mo.  
Machine Tools.  
Niles-Bement-Pond Co., New York, N. Y.  
Machinists. (Engineers.)  
Gyro Metal Co., Norfolk, Va.  
Magnetic Separators.  
Buchanan Co., Inc., C. G., New York, N. Y.  
Mail Chutes.  
Cutler Mail Chute Co., Rochester, N. Y.  
Mantels. (Wood and Tile.)  
Northwestern Mantel Co., W. S., Memphis, Tenn.  
Mechanical Draft.  
Buffalo Forge Co., Buffalo, N. Y.  
Clairage Fan Co., Kalamazoo, Mich.  
Sturtevant Co., B. F., Hyde Park, Boston, Mass.  
Metaline.  
Metaline Co., Long Island City, N. Y.  
Metal. (For Tanks, Culverts, Roofing, etc.)  
Whitaker-Glessner Co., Portsmouth, Ohio.  
Metal-Working Machinery.  
Bliss Co., E. W., Brooklyn, N. Y.  
Niles-Bement-Pond Co., New York, N. Y.  
Micrometers, Calipers, etc.  
Starratt Co., L. S., Athol, Mass.  
Milk Filters. (Liquor, Milk, etc.)  
International Filter Co., Chicago, Ill.  
Mill Machinery and Supplies.  
Ballew-Jebb Co., Inc., Charleston, S. C.  
Booth Belt Co., Brooklyn, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Empire Mchry. & Supply Corp., Norfolk, Va.  
Lombard Iron Works, Augusta, Ga.  
Lunkenheimer Co., The, Cincinnati, O.  
Mecklenburg Iron Works, Charlotte, N. C.  
New Bern I. Wks. & S. Co., Inc., New Bern, N. C.  
Starr Co., B. F., Baltimore, Md.  
Stratton & Bragg Co., Petersburg, Va.  
Wolf Co., Chambersburg, Pa.  
Mill Work. (Lumber, All Kinds.)  
Racon & Sons, A. S., Savannah, Ga.  
Cordele Sash, Door & Lumber Co., Cordele, Ga.  
Mining Machinery.  
Jeffrey Manufacturing Co., Columbus, O.  
McLanahan-Stone Mch. Co., Hollidaysburg, Pa.  
Mecklenburg Iron Works, Charlotte, N. C.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
The Automatic Shovel Co., Lorain, Ohio.  
Mixers. (Concrete.)  
American Cement Mch. Co., Inc., Keokuk, Iowa.  
Automatic Mix Co., Inc., Providence, R. I.  
Blystone Mfg. Co., Cambridge, Springs, Pa.  
Ideal Concrete Machinery Co., Cincinnati, O.  
Jaeger Machine Co., Columbus, O.  
Koehring Machine Co., Milwaukee, Wis.  
Northwestern Steel & Iron Wks., Eau Claire, Wis.  
Ransome Concrete Mchry. Co., Dunellen, N. J.  
Standard Scale & Supply Co., Pittsburgh, Pa.  
Waterloo Cement Machinery Corp., Waterloo, Iowa.  
Mixing Mchry. (Paint, Plaster and Fertilizer)  
Dunning, W. D., Syracuse, N. Y.  
Sturtevant Mill Co., Boston, Mass.  
Mortar Colors.  
Chattanooga Paint Co., Chattanooga, Tenn.  
Money Changing Machines.  
Bairrett Changer Co., Chicago, Ill.  
Motor Trucks. (Gasoline.)  
Federal Motor Truck Co., Detroit, Mich.  
Garford Motor Truck Co., Lima, O.  
General Motors Truck Co., Pontiac, Mich.  
Internat. Gas Motor Co., New York, N. Y.  
Music Wire.  
American Steel & Wire Co., Chicago, Ill.  
Waterbury Co., The, New York, N. Y.  
Nail Machinery. (Wire.)  
Sleeper & Hartley, Inc., Worcester, Mass.



- Nails.**  
Copper.  
Hungerford Brass & Copper Co., U. T. Balto., Md.  
Cut.  
La Belle Iron Works, Steubenville, O.  
Larkin & Co., J. K., New York, N. Y.  
WIRE, ALL KINDS.  
Atlantic Steel Co., Atlanta, Ga.  
Gulf States Steel Co., Birmingham, Ala.  
Larkin & Co., J. K., New York, N. Y.  
WIRE, CEMENT COATED.  
Larkin & Co., J. K., New York, N. Y.  
**Nails and Spikes.**  
Bethlehem Steel Co., South Bethlehem, Pa.  
La Belle Iron Works, Steubenville, O.  
Republic Iron & Steel Co., Youngstown, O.  
Stimpson Co., Edwin B., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngstown, O.  
**Nitro Pots and Eggs.**  
Caroline Fdry. Co., Baltimore, Md.  
**Nozzles.** (Aerating Sprinkler, etc.)  
Spray Engineering Co., Boston, Mass.  
**Oil Cans.**  
Wall Mfg. Supply Co., P. Allegheny, Pa.  
**Oil.** (Lubricating, etc.)  
Albany Lubricating Co., New York, N. Y.  
Borne, Serrymore Co., New York, N. Y.  
Gulf Refining Co., Pittsburgh, Pa.  
Robinson & Son Co., Wm. C., Baltimore, Md.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The New York, N. Y.  
Union Petroleum Co., Philadelphia, Pa.  
**Oil.** (Paint.)  
Union Petroleum Co., Philadelphia, Pa.  
**Oil Well Machinery.**  
Cook, A. D., Lawrenceburg, Ind.  
Keston Pipe & Supply Co., Butler, Pa.  
Williams Bros., Ithaca, N. Y.  
**Ore Washing Machinery.**  
Davis Fdry. & Mch. Wks., Roma, Ga.  
McLanahan Stone Mach. Co., Hollidaysburg, Pa.  
**Ornamental Iron Works.**  
Boiles Iron & Wks. Co., J. E., Detroit, Mich.  
Chattanooga Rig. & Fdy. Co., Chattanooga, Tenn.  
Chesapeake Iron Works, Baltimore, Md.  
Dow Wire & Iron Works, Inc., Louisville, Ky.  
Huntington Iron Works, Huntington, W. Va.  
Roanoke Iron & Bridge Wks., Inc., Roanoke, Va.  
Snead Architectural Iron Wks., Louisville, Ky.  
Stewart Iron Works Co., Cincinnati, O.  
Up-To-Date Mfg. Co., Terre Haute, Ind.  
**Oxygen.**  
Linde Air Products Co., The New York, N. Y.  
**Oxy-Acetylene Welding and Cutting Outfit and Supplies.**  
Collins, J. D., Atlanta, Ga.  
Milburn Co., Alex., Baltimore, Md.  
Superior Oxy-Acetylene Mch. Co., Hamilton, Ohio  
**Packing House Apparatus.**  
Dayton Bester & Hoist Co., Dayton, O.  
**Packing.** (Asbestos, Metallic, Rubber, Leather, etc.)  
Booth Felt Co., Inc., Brooklyn, N. Y.  
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.  
Goodrich Co., B. F., Akron, O.  
Goodyear Tire & Rubber Co., Akron, O.  
Graton & Knight Mfg. Co., Worcester, Mass.  
Jenkins Bros., New York, N. Y.  
Johns-Manville Co., H. W., New York, N. Y.  
Power Specialty Co., New York, N. Y.  
**Paint.**  
**METAL SURFACES.**  
Detroit Graphite Co., Detroit, Mich.  
Dixon Crucible Co., Joseph, Jersey City, N. J.  
**PRESERVATIVE.**  
Arco Co., Cleveland, Ohio.  
Detroit Graphite Co., Detroit, Mich.  
**WAXES.** (For Interiors.)  
Arco Co., Cleveland, Ohio.  
**Paper.** (Roofing, Building, Sheathing, etc.)  
Barrett Co., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
**Partitions.** (Metal, Wooden Rolling.)  
Danahorn Metallic Door Co., New York, N. Y.  
Van Hurlingen, J. M., Atlanta, Ga.  
**Patent Attorneys.**  
Brown, Eugene C., Washington, D. C.  
Chandler & Chandler, Washington, D. C.  
Coleman, Watson E., Washington, D. C.  
Evans & Co., Victor J., Washington, D. C.  
Kelly, J. H., Washington, D. C.  
Kimmel, Geo. P., Washington, D. C.  
Lacey, R. S. & A. B., Washington, D. C.  
Lancaster & Allwine, Washington, D. C.  
Shepherd & Campbell, Washington, D. C.  
Whitaker, Norman T., Washington, D. C.  
**Pattern Making.**  
Altavista Foundry Co., Altavista, Va.  
Gyro Metal Works, Norfolk, Va.  
**Pavement Filler.**  
Atlanta Gas Light Co., Atlanta, Ga.  
Barrett Co., New York, N. Y.  
**Paving Block Machinery.**  
Chattanooga Mch. Co., Chattanooga, Tenn.  
**Paving Block.** (Granite.)  
Granite Paving Block Mfrs. Assn., Boston, Mass.  
**Paving Blocks.** (Wood.)  
Crescent Materials Co., Inc., New Orleans, La.  
Republic Cresson Co., Indianapolis, Ind.  
Southern Cresson Co., Ltd., Slidell, La.  
Southern Paving Const. Co., Chattanooga, Tenn.  
Southern Wood Preserving Co., Atlanta, Ga.  
**Paving Brick.**  
Copeland-Ingalls Shale Brick Co., Birmingham, Ala.  
Dunn Wire-Cut Lbr. Brick Co., Connagut, O.  
Southern Clay Mfg. Co., Chattanooga, Tenn.  
Southern Paving Brick Mfr. Assn., Birmingham, Ala.  
Standard Brick Co., Macon, Ga.  
**Paving Mixers.** (Concrete.)  
American Cement Mch. Co., Inc., Keokuk, Ia.  
Blystone Mfg. Co., Cambridge Springs, Pa.  
Ideal Concrete Machinery Co., Cincinnati, Ohio.  
Jager Machine Co., The Columbus, O.  
Ransome Concrete Mch. Co., Duncannon, N. J.  
Standard Scale & Supply Co., Pittsburgh, Pa.  
Waterloo Cement & Mch. Corp., Waterloo, Iowa  
**Paving Plants.** (Asphalt.)  
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.  
Cummer & Son Co., F. D., Cleveland, O.  
East Iron & Machine Co., The Lima, O.  
Warren Bros. Co., Boston, Mass.  
**Pay Roll Machines.**  
Barrett Changer Co., Chicago, Ill.  
**Perforated Metal.**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Erdle Perforating Co., Rochester, N. Y.  
Hendricks Mfg. Co., The Carbondale, Pa.  
Manhattan Perforated Metal Co., New York, N. Y.  
Mundt & Sons, Charles, Jersey City, N. J.  
**Petroleum Refiners.**  
Corden & Co., Tulsa, Okla.  
Gulf Refining Co., Pittsburgh, Pa.  
Sapulpa Refining Co., Sapulpa, Okla.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The New York, N. Y.  
**Phosphate Machinery.**  
American Process Co., New York, N. Y.  
Bailey-Lebby Co., The Charleston, S. C.  
Bradley Pulverizer Co., Allentown, Pa.  
Cameron & Barkley Co., Charleston, S. C.  
K-B Pulverizer Co., New York, N. Y.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Raymond Impact Fdy. Co., Chicago, Ill.  
Valk & Murdoch Co., Charleston, S. C.  
**Pig Iron.**  
The Alabama Co., Birmingham, Ala.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Bourne-Fuller Co., The Cleveland, O.  
La Belle Iron Works, Steubenville, O.  
Republic Iron & Steel Co., Youngstown, O.  
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.  
**Piling.** (Crescoted.)  
American Cresson Works, New Orleans, La.  
Crescoted Material Co., Inc., New Orleans, La.  
Southern Cresson Co., Ltd., Slidell, La.  
Southern Paving Const. Co., Chattanooga, Tenn.  
**Pillow Blocks.**  
Caldwell Co., W. E., Louisville, Ky.  
Goldens Foundry & Machine Co., Columbus, Ga.  
Medart Patent Pulley Co., St. Louis, Mo.  
**Pipe.**  
La Belle Iron Works, Steubenville, O.  
National Tube Co., Pittsburgh, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.  
**Pipe.**  
**CAST IRON.**  
American Casting Co., Birmingham, Ala.  
American Cast Iron Pipe Co., Birmingham, Ala.  
American Pipe & Construction Co., Phila., Pa.  
Cast Iron Pipe Publicly Bureau, New York, N. Y.  
Central Foundry Co., New York, N. Y.  
Glamorgan Pipe & Foundry Co., Lynchburg, Va.  
Hammond-Byrd Iron Co., Birmingham, Ala.  
Stockham Pipe & Fittings Co., Birmingham, Ala.  
U. S. Cast Iron Pipe & Fdy. Co., Burlington, N. J.  
Wood & Co., R. D., Philadelphia, Pa.  
**COIL.**  
Frick Co., Waynesboro, Pa.  
Industrial Welding Co., Baltimore, Md.  
York Mfg. Co., York, Pa.  
**RIVETED.**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
New Bern I. Wks. & S. Co., Inc., New Bern, N. C.  
**SECOND HAND.**  
Eagle Pipe Supply Co., Inc., New York, N. Y.  
Keystone Pipe & Supply Co., Butler, Pa.  
Marine Metal & Supply Co., New York, N. Y.  
Pipe & Contractors Supply Co., New York, N. Y.  
**SPIRAL RIVETED.**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
American Spiral Pipe Works, Chicago, Ill.  
**SPIRAL STEEL.**  
Standard Spiral Pipe Wks., Chicago, Ill.  
**STEEL.**  
National Tube Co., Pittsburgh, Pa.  
La Belle Iron Works, Steubenville, O.  
Larkin & Co., J. K., New York, N. Y.  
Republic Iron & Steel Co., Youngstown, Ohio  
Youngstown Sheet & Tube Co., Youngstown, Ohio  
**WOOD.**  
Michigan Pipe Co., Bay City, Mich.  
Rich-Wil Co., The Cleveland, O.  
Washington Pipe & Foundry Co., Tacoma, Wash.  
Wyckoff & Son Co., Elmira, N. Y.  
**WROUGHT IRON.**  
Larkin & Co., J. K., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngstown, O.  
**Pipe Fittings.**  
American Cast Iron Pipe Co., Birmingham, Ala.  
Crane Co., Chicago, Ill.  
Larkin & Co., J. K., New York, N. Y.  
Lunkenheimer Co., The Cincinnati, O.  
National Tube Co., Pittsburgh, Pa.  
Stockham Pipe & Fittings Co., Birmingham, Ala.  
York Mfg. Co., York, Pa.  
**Pipe Unions and Joints.**  
Dart Mfg. Co., E. M., Providence, R. I.  
National Tube Co., Pittsburgh, Pa.  
**Pitch.**  
Barrett Co., New York, N. Y.  
**Plates.**  
**FLOOR.**  
American Pressed Steel Co., Philadelphia, Pa.  
**STEEL.**  
Allegheny Steel Co., Pittsburgh, Pa.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
**Plate Glass Settings.** (Safety and Burglar Proof.)  
Zouri Drawn Metals Co., Chicago, Ill.  
**Plumbing.** (For Cotton Mills.)  
Southern States Supply Co., Columbia, S. C.  
**Poles.** (Chestrut, Electric Light and Telephone.)  
Davison & McBryde Nashville, Tenn.  
**Poles.** (Crescoted.)  
American Cresson Works, New Orleans, La.  
Crescoted Material Co., Inc., New Orleans, La.  
Southern Cresson Co., Ltd., Slidell, La.  
Southern Exchange Co., New York, N. Y.  
Southern Paving Const. Co., Chattanooga, Tenn.  
Southern Wood Preserving Co., Atlanta, Ga.  
**Polishing Machinery.** (Wheels and Blocks.)  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.  
**Posts.** (Cast Iron) [Railway and Highway.]  
U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.  
**Post Caps.**  
Van Dorn Iron Works Co., The Cleveland, Ohio  
**Power Plants.** (Steam and Electric.)  
Allen-Powers Eng. Co., Inc., Nashville, Tenn.  
**Power Transmission Machinery.**  
Aber-Ferguson Co., Inc., Cincinnati, Ohio.  
American Pulley Co., Philadelphia, Pa.  
Bailey-Lebby Co., Charleston, S. C.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Caldwell Co., W. E., Louisville, Ky.  
Conway & Company, Cincinnati, Ohio.  
Cresson-Morris Co., Philadelphia, Pa.  
Dodge Sales & Engineering Co., Mishawaka, Ind.  
Golden's Foundry & Machine Co., Columbus, Ga.  
Jeffrey Mfg. Co., Columbus, Ohio.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Link-Bell Co., Philadelphia, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
More Chain Co., Ithaca, N. Y.  
Safety First Mfg. Co., Washington, D. C.  
Schofield Iron Works, Macon, Ga.  
Smith-Courtney Co., Richmond, Va.  
Wolf Co., The Chambersburg, Pa.  
Wood's Sons, T. B., Chambersburg, Pa.  
**Preservative.** (Canvas.)  
Robeson Preserve Products Co., Port Huron, Mich.  
**Presses.**  
**BALING, COTTONSEED OIL, ETC., HYDRAULIC AND POWER.**  
Bauer Bros. Co., The Springfield, O.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Cardwell Machine Co., Richmond, Va.  
Continental Gin Co., Birmingham, Ala.  
French Oil Mill Mch. Co., The Piqua, O.  
Murray Co., The Atlanta, Ga.  
Ripley Foundry & Machine Co., Ripley, Ohio.  
Saco-Lowell Shops, Boston, Mass.  
**METAL STAMPING.**  
Stimpson Co., Edwin B., Brooklyn, N. Y.  
**STAMPING.**  
Ams Machine Co., Max, Bridgeport, Conn.  
Bliss Co., E. W., Brooklyn, N. Y.  
**Printers.** (Book, Catalog, Job, etc.)  
Fleet-McGinley Co., Baltimore, Md.  
**Prison Work.**  
Van Dorn Iron Works, The Cleveland, Ohio  
**Pulleys.**  
**FRICTION CLUTCH.**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Caldwell Co., W. E., Louisville, Ky.  
Cresson-Morris Co., Philadelphia, Pa.  
Dodge Sales & Engineering Co., Mishawaka, Ind.  
Medart Patent Pulley Co., St. Louis, Mo.  
Moore & White Co., The Philadelphia, Pa.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**STEEL RIM.**  
American Pulley Co., Philadelphia, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
**WOOD SPLIT.**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Medart Patent Pulley Co., St. Louis, Mo.  
**Pulleys, Shafting and Hangers.**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Conway & Company, Cincinnati, Ohio.  
Cresson-Morris Co., Philadelphia, Pa.  
Dodge Sales & Engineering Co., Mishawaka, Ind.  
Golden's Foundry & Machine Co., Columbus, Ga.  
Jeffrey Mfg. Co., Columbus, O.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**Pulverizers.**  
Astin Mfg. Co., Chicago, Ill.  
Bradley Pulverizer Co., Allentown, Pa.  
Grundler Pat. Crusher & Pulv. Co., St. Louis, Mo.  
Jeffrey Mfg. Co., Columbus, O.  
K-B Pulverizer Co., Inc., New York, N. Y.  
Lehigh Car. Wheel and Axle Wks., Catsaqua, Pa.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Sturtevant Mill Co., Boston, Mass.  
Traylor Engineering & Mfg. Co., Allentown, Pa.  
Western Wheeled Scraper Co., Aurora, Ill.  
Whitman Pat. Crusher & Pulv. Co., Chicago, Ill.  
**Pumping Machinery.**  
Boicourt Co., Fort Worth, Texas.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Cook, A. D., Lawrenceburg, Ind.  
Dayton-Dick Co., Quincy, Ill.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Emerson Pump & Valve Co., Alexandria, Va.  
Goulds Mfg. Co., Seneca Falls, N. Y.  
Holland Machine Co., New York, N. Y.  
Moffatt Machinery Mfg. Co., Charlotte, N. C.  
Morris Machine Works, Baldwinville, N. Y.  
Mutual Fdry. & Machine Co., Atlanta, Ga.  
Myers & Bro., F. E., Ashland, Ohio.  
National Transit Pump & Machine Co., Oil City, Pa.  
Platt Iron Works, Dayton, O.  
Reilly Mfg. Co., J. J., Louisville, Ky.  
Remington Oil Eng. Co., New York, N. Y.  
Vogt Bros. Mfg. Co., Louisville, Ky.  
Wood & Co., R. D., Philadelphia, Pa.  
Worthington Pump & Mch. Corp., New York, N. Y.  
**Pumps.**  
Blakeslee Mfg. Co., Du Quoin, Ill.  
AIR LIFT.  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.  
**ASPHALT AND ROAD OIL.**  
Kinney Mfg. Co., Boston, Mass.  
**BOILER FEED.**  
Blakeslee Mfg. Co., Du Quoin, Ill.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Dayton-Dick Co., Quincy, Ill.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Deming Co., Salem, Ohio.  
Goulds Mfg. Co., Seneca Falls, N. Y.  
Holland Machine Co., New York, N. Y.  
Mutual Fdry. & Machine Co., Atlanta, Ga.  
Platt Iron Works, Dayton, O.  
Whitman Agricultural Co., St. Louis, Mo.  
Wood & Co., R. D., Philadelphia, Pa.  
Worthington Pump & Mch. Corp., New York, N. Y.  
Zin-Ho Mfg. Co., Chicago, Ill.  
**DEEP WELL.**  
Boicourt Co., Fort Worth, Texas.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Cook, A. D., Lawrenceburg, Ind.  
Deming Co., Salem, Ohio.  
Goulds Mfg. Co., Seneca Falls, N. Y.  
Holland Machine Co., New York, N. Y.  
Layne & Bowler Co., New York, N. Y.  
Platt Iron Works, Dayton, O.  
St. Louis Well Mch. & Tool Co., St. Louis, Mo.  
Whitman Agricultural Co., St. Louis, Mo.  
**DREDGING.**  
Buffalo Steam Pump Wks., Buffalo, N. Y.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Cardwell Machine Co., Richmond, Va.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Deming Co., Salem, Ohio.  
French Oil Mill Mch. Co., The Piqua, O.  
Holland Machine Co., New York, N. Y.  
Platt Iron Works, Dayton, O.  
**STEAM.**  
Blakeslee Mfg. Co., Du Quoin, Ill.  
Buffalo Steam Pump Wks., Buffalo, N. Y.  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Cook, A. D., Lawrenceburg, Ind.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
Deming Co., Salem, Ohio.  
Emerson Pump & Valve Co., Alexandria, Va.  
Murray Iron Works, Dayton, O.  
National Transit Pump & Machine Co., Oil City, Pa.  
Platt Iron Works, Dayton, O.  
Reilly Mfg. Co., J. J., Louisville, Ky.  
Worthington Pump & Mch. Corp., New York, N. Y.  
**TRIPLEX POWER.**  
Whitman Agricultural Co., St. Louis, Mo.  
**TURBINE DRIVE.**  
Platt Iron Works, Dayton, O.  
**VACUUM.**  
Cameron Steam Pump Wks., A. S., New York, N. Y.  
Dean Bros. Steam Pump Wks., Indianapolis, Ind.  
**WATER-WORKS.**  
Boicourt Co., Fort Worth, Texas.  
Deming Co., Salem, Ohio.  
Goulds Mfg. Co., Seneca Falls, N. Y.  
Holland Machine Co., New York, N. Y.  
Platt Iron Works, Dayton, O.  
**Pump Leathers.**  
Graton & Knight Mfg. Co., Worcester, Mass.  
**Punching and Shearing Machinery.**  
Bliss Co., E. W., Brooklyn, N. Y.  
**Pyrites Burners.**  
Caroline Fdry. Co., Baltimore, Md.  
**Railroads.** (Offering Industrial, Agricultural and Commercial Opportunities.)  
Atlantic Coast Line, Wilmington, N. C.  
Atlantic & West Point R. R., Atlanta, Ga.  
Carolina, Clinchfield & O. R. R., Johnson City, Tenn.  
Central R. R. of Ga., Savannah, Ga.  
Florida East Coast Rwy., St. Augustine, Fla.  
Georgia Railroad, Atlanta, Ga.  
Illinois Central Railroad Co., Chicago, Ill.  
Norfolk & Western Ry., Roanoke, Va.  
Richmond & Northern Ry., Richmond, Va.  
Seaboard Air-Line, Norfolk, Va.  
Southern Railway System, Washington, D. C.  
Winston-Salem Southbound Rwy. Co., Winston-Salem, N. C.  
**Railroad Equipment and Supplies.** (New and Second-hand.)  
American Frog & Switch Co., Hamilton, O.  
Arising Mch. Co., W. O., Nashville, Tenn.  
Bailey-Lebby Co., The Charleston, S. C.  
Benjamin Equipment Co., Harry, St. Louis, Mo.  
Birmingham Rail & Loco. Co., Birmingham, Ala.  
Carey Co., Thos. F., New York, N. Y.  
Cincinnati Frog & Switch Co., Cincinnati, O.  
Equity Equipment Co., The Cincinnati, O.  
Foster Co., L. R., Pittsburgh, Pa.  
Gardner, Inc., James T., Chicago, Ill.  
Georgia Car & Locomotive Co., Atlanta, Ga.  
Hirsch & Sons Mercantile Co., Cal., St. Louis, Mo.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.  
Joseph Iron Co., The Isaac, Cincinnati, Ohio.  
Kilby Frog & Switch Co., Birmingham, Ala.  
Males Co., The New York, N. Y.  
Metzger, Louis H., Mobile, Ala.  
National Steel Rail Co., St. Louis, Mo.  
Patch, Alfred, Chicago, Ill.  
Peckham & Co., Fred A., Cleveland, Ohio.  
Phelan, Joseph P., Fall River, Mass.  
Read Co., Howard W., Philadelphia, Pa.  
Robinson & Orr, Pittsburgh, Pa.  
Shaw, Willis, Chicago, Ill.  
Sherwood, E. C., New York, N. Y.  
Southern Iron & Equipment Co., Atlanta, Ga.  
United States Equipment Co., Chicago, Ill.  
United States Rail Co., Cumberland, Md.  
Weir Frog Co., Cincinnati, O.  
West Virginia Rail Co., Huntington, W. Va.  
Wilson & Co., E. H., Philadelphia, Pa.  
Wilson Mach. Co., St. Louis, Mo.  
Zeinecker Supply Co., Walter A., St. Louis, Mo.  
**Railroad Frog and Switches.**  
American Frog & Switch Co., Hamilton, O.  
Cincinnati Frog & Switch Co., Cincinnati, O.  
Frank, M. E., Pittsburgh, Pa.  
Kilby Frog & Switch Co., Birmingham, Ala.  
Metzger, Louis H., Mobile, Ala.  
Robinson & Orr, Pittsburgh, Pa.  
Weir Frog Co., Cincinnati, O.  
**Rails.** (Steel.)  
American Metal Packing Co., Inc., Lexington, Ky.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Benjamin Equipment Co., Harry, St. Louis, Mo.  
Burgheim Co., Hugo, Cincinnati, O.  
Carey Co., Thos. F., New York, N. Y.  
Carnegie Steel Co., Pittsburgh, Pa.  
Foster Co., L. R., Pittsburgh, Pa.  
Frank, J. E., Atlanta, Ga.  
Frank, M. K., Pittsburgh, Pa.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.  
Lewis & Co., Henry, Philadelphia, Pa.  
Metzger, Louis H., Mobile, Ala.  
National Steel Rail Co., St. Louis, Mo.  
Republic Iron & Steel Co., Youngstown, O.  
Robinson & Orr, Pittsburgh, Pa.  
Sherwood, E. C., New York, N. Y.  
Southern Iron & Equipment Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.  
United States Rail Co., Cumberland, Md.  
West Virginia Rail Co., Huntington, W. Va.  
Wilson & Co., E. H., Philadelphia, Pa.  
**Railings.** (Iron Pipe.)  
Pipe Railing Const. Co., Long Island City, N. Y.  
**Railings and Grilles.** (Brass.)  
Newman Mfg. Co., Cincinnati, O.  
**Railways.** (Industrial.)  
Chase Fdry. & Mfg. Co., Columbus, O.  
Cincinnati Frog & Switch Co., Cincinnati, O.  
Hunt Co., Inc., C. W., West New Brighton, N. Y.  
**Railway Repair Shops Equipment.**  
Niles-Bement-Pond Co., New York, N. Y.  
**Real Estate Investment.**  
Jemison Real Estate & Ins. Co., Birmingham, Ala.  
**Refrigerating Machinery and Apparatus.**  
Brecht Co., St. Louis, Mo.  
De La Vergne Mch. Co., New York, N. Y.  
Vilter Mfg. Co., Milwaukee, Wis.  
Vogt Bros. Mfg. Co., Louisville, Ky.  
Vogt Mch. Co., Inc., Henry, Louisville, Ky.  
York Mfg. Co., York, Pa.  
**Reinforcing Plates.**  
Bergner Mfg. Co., Canton, Ohio.  
**Rendering Tanks.**  
Dayton Bester & Hoist Co., Dayton, Ohio  
**River and Harbor Improvements.** (Dredging Docks, Wharves, etc.)  
Atlantic, Gulf and Pacific Co., New York, N. Y.  
**Rivets.** (Copper, Iron, Brass.)  
American Equipment Co., Philadelphia, Pa.  
Stimpson Co., Edwin B., New York, N. Y.  
**Riveters.** (Pneumatic.)  
Ingersoll-Rand Co., New York, N. Y.  
**Road Expansion Joints.**  
Asbestos Protected Metal Co., Pittsburgh, Pa.  
Pioneer Asphalt Co., Lawrenceville, Ill.  
**Road and Street Machinery.**  
Austin-Western Road Mch. Co., The Chicago, Ill.  
Baker Mfg. Co., The Springfield, Ill.  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Buffalo-Springfield Roller Co., Springfield, O.  
Erie Machine Shop, Erie, Pa.  
Keystone Driller Co., Beaver Falls, Pa.  
Kilbourne & Jacobs Mfg. Co., Columbus, O.  
Kinney Mfg. Co., Boston, Mass.  
Northwestern Steel & Iron Wks., Eau Claire, Wis.  
Owensboro Ditcher & Grader Co., Inc., Owensboro, Ky.  
Ruggles-Coles Engineering Co., York, Pa.  
The Automatic Shovel Co., Lorain, O.  
Universal Road Mch. Co., Kingston, N. Y.  
Western Wheeled Scraper Co., Aurora, Ill.  
**Road and Street Materials.**  
Atlanta Gas Light Co., Atlanta, Ga.  
Atlantic Refining Co., The Philadelphia, Pa.  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Barrett Co., New York, N. Y.  
Birmingham Slag Co., Birmingham, Ala.  
Bitolax Paving Co., The New York, N. Y.  
Empire Cement & Limestone Co., Atlanta, Ga.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The New York, N. Y.  
U. S. Asphalt Refining Co., New York, N. Y.  
Warren Bros. Co., Boston, Mass.  
**Road Binders.**  
Atlanta Gas Light Co., Atlanta, Ga.  
Atlantic Refining Co., The Philadelphia, Pa.  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Barrett Co., New York, N. Y.  
U. S. Asphalt Refining Co., New York, N. Y.  
**Road Grader and Scrapers.**  
Austin-Western Road Mch. Co., Chicago, Ill.  
Owensboro Ditcher & Grader Co., Inc., Owensboro, Ky.  
Western Wheeled Scraper Co., Aurora, Ill.  
**Road Oils and Preservatives.**  
Atlanta Gas Light Co., Atlanta, Ga.  
Atlantic Refining Co., The Philadelphia, Pa.  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Barrett Co., New York, N. Y.  
Gulf Refining Co., Pittsburgh, Pa.  
Standard Oil Co. of La., Baton Rouge, La.  
Texas Co., The New York, N. Y.  
U. S. Asphalt Refining Co., New York, N. Y.  
**Road Oiling Machinery.**  
Kinney Mfg. Co., Boston, Mass.  
**Road Roller.** (Steam.)  
Austin-Western Road Mch. Co., The Chicago, Ill.  
Barber Asphalt Paving Co., Iroquois Wks., Buffalo, N. Y.  
Buffalo Springfield Roller Co., Springfield, O.  
Erie Mach. Shops, Erie, Pa.  
Universal Road Mch. Co., Kingston, N. Y.



- Road Scavengers.**  
Buffalo Springfield Roller Co., Springfield, O.
- Roofing.**  
**CEMENT TILE.**  
American Cement Tile Mfg. Co., Pittsburgh, Pa.  
READY PREPARED. (Felt-Tar-Asbestos-Asphalt.)  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Asbestos Protected Metal Co., Pittsburgh, Pa.  
Barrett Co., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Finticks Mfg. Co., Boston, Mass.  
John-Manville Co., H. W., New York, N. Y.  
Oden's-Hal-Monks Corp., Norfolk, Va.  
**METAL SHINGLES.**  
Berger Mfg. Co., Canton, Ohio.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Edwards Mfg. Co., The Cincinnati, O.  
Hyndman Roofing Co., Cincinnati, O.  
Merchant & Evans Co., Philadelphia, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.  
Southern Sheet & Tin Plate Co., Ashland, Ky.  
**SLATE.**  
Arvonis-Buckingham Slate Co., Inc., Richmond, Va.  
East Bangor Consol. Slate Co., East Bangor, Pa.  
Genuine Bangor Slate Co., Easton, Pa.  
Johnson, E. J., New York, N. Y.  
**Roofing and Siding. (Metal.)**  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Berger Mfg. Co., Canton, Ohio.  
Cameron & Barkley Co., Charleston, S. C.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Edwards Mfg. Co., The Cincinnati, O.  
Hyndman Roofing Co., Cincinnati, O.  
Merchant & Evans Co., Philadelphia, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.  
Southern Sheet & Tin Plate Co., Ashland, Ky.  
Steel Products Co., The Savannah, Ga.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Whitaker-Glesner Co., Portsmouth, O.  
Youngstown Sheet & Tube Co., Youngstown, O.  
**Rope.**  
**MANILA, SISAL, HEMP, ETC.**  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Columbian Rope Co., Auburn, N. Y.  
Waterbury Co., New York, N. Y.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**WIRE TRANSMISSION, HOISTING, HAULAGE.**  
American Sheet & Wire Co., Chicago, Ill.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Hunt Co., Inc., C. W., West New Brighton, N. Y.  
Roebbing's Sons Co., John A., Trenton, N. J.  
Waterbury Co., New York, N. Y.  
**Rope Drives.**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Cooper Co., C. & G., Mt. Vernon, O.  
Crescent-Morrel Co., Philadelphia, Pa.  
Doyle Sales & Engineering Co., Milwaukee, Ind.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
Waterbury Co., New York, N. Y.  
Wood's Sons Co., T. B., Chambersburg, Pa.  
**Rubber Goods.**  
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.  
Eureka Fire Hose Mfg. Co., New York, N. Y.  
Goodrich Co., B. F., Akron, Ohio.  
Goodyear Tire & Rubber Co., Akron, Ohio.  
**Rules.**  
**BOXWOOD.**  
Lufkin Rule Co., Saginaw, Mich.  
**SPRING JOINT WOOD.**  
Lufkin Rule Co., Saginaw, Mich.  
**STEEL.**  
Lufkin Rule Co., Saginaw, Mich.  
Starrett Co., L. S., Athol, Mass.  
**Saddles. (For Cotton Mchys., Oil-less.)**  
Bound Brook Oil-less Bearing Co., Bound Brook, N. J.  
**Sales and Vaults.**  
Barnes Safe & Vault Co., Richmond, Va.  
National Safe & Lock Co., Cleveland, Ohio.  
York Safe & Lock Co., York, Pa.  
**Sand.**  
Arundel Sand & Gravel Co., Baltimore, Md.  
Cook & Loring, Gravel Co., Montgomery, Ala.  
Guadalupe River Navigation Co., Victoria, Texas.  
Kirkpatrick Sand & Cement Co., Birmingham, Ala.  
Macon Fuel & Supply Co., Macon, Ga.  
**Sand and Gravel Plant Equipment.**  
Mansfield Eng. Co., Indianapolis, Ind.  
**Sand Dryers.**  
American Process Co., New York, N. Y.  
Ripley Foundry & Mch. Co., Ripley, O.  
Ruggles-Coles Engineering Co., York, Pa.  
**Sap Stain Preventive.**  
Church & Dwight Co., New York, N. Y.  
**Sash Chain.**  
Niagara Falls Metal Stg. Wks., Niagara Falls, N. Y.  
**Sash. (Wood.)**  
Cordele Sash, Door & Lumber Co., Cordele, Ga.  
**Saws.**  
Buther Bros. Saw Mfg. Co., Inc., Rochester, N. Y.  
**Saws. (Hack.)**  
Starrett Co., L. S., Athol, Mass.  
**Sawmill Dogs.**  
Soule Steam Feed Works, Meridian, Miss.  
**Sawmill Machinery.**  
Bailey-Lehby Co., Charleston, S. C.  
Cameron & Barkley Co., Charleston, S. C.  
Clark Bros. Co., Olean, N. Y.  
Mecklenburg Iron Works, Charlotte, N. C.  
Schofield Iron Works, Macon, Ga.  
**Saw Sharpeners.**  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.  
**Scale Preventive. (Boiler.)**  
Boiler-Kote Co., Chicago, Ill.  
**Scales.**  
Standard Scale & Supply Co., Pittsburgh, Pa.  
**Scales. (Dial for R. R. Factory Warehouses.)**  
American Kron Scales Co., New York, N. Y.  
**Scrapers. (Power.)**  
Sauerman Bros., Chicago, Ill.  
**Scrapers. (Road and Street.)**  
Baker Mfg. Co., The Springfield, Ill.  
**Scrap Iron and Steel.**  
Benjamin Equipment Co., Harry, St. Louis, Mo.  
Phelan, Joseph F., Fall River, Mass.  
Piedmont Iron & Metal Co., Baltimore, Md.  
Shapiro, B., Baltimore, Md.  
**Screens. (Fly Window and Door.)**  
Ludlow-Saylor Wire Co., St. Louis, Mo.  
New Jersey Wire Cloth Co., Trenton, N. J.  
**Screens. (Sand, Gravel, Stone, Coal, Ore, etc.)**  
Davis Foundry & Machine Works, Roma, Ga.  
Erdie Foundry Co., Rochester, N. Y.  
Hendrick Mfg. Co., Carbondale, Pa.  
Jeffrey Mfg. Co., Columbus, O.  
Link Belt Co., Philadelphia, Pa.  
Ludlow-Saylor Wire Co., St. Louis, Mo.  
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.  
Mundt & Sons, Charles, Jersey City, N. J.  
New Jersey Wire Cloth Co., Trenton, N. J.  
Stearns Mill Co., Boston, Mass.  
Taylor Eng. & Mfg. Co., Allentown, Pa.
- Screenings. (For Concrete and Road Const.)**  
American Ballast Co., Knoxville, Tenn.
- Screws.**  
**MACHINE.**  
Progressive Mfg. Co., Torrington, Conn.  
Stimpson Co., Edwin B., New York, N. Y.  
**SAFETY SET.**  
Stimpson Co., Edwin B., New York, N. Y.  
**Screw Machine Products.**  
Progressive Mfg. Co., Torrington, Conn.
- Separators. (Dust.)**  
Buffalo Forge Co., Buffalo, N. Y.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
- Septic Tanks.**  
Cement Products Co., Wilmington, N. C.  
Macon Sewer Pipe Wks., Macon, Ga.  
Sanitary Engineering Co., Charlotte, N. C.
- Settings for Plate Glass. (Safety and Burglar Proof.)**  
Zouri Drawn Metals Co., Chicago, Ill.
- Sewage-Disposal Plant.**  
Cement Products Co., Wilmington, N. C.  
Sanitary Engineering Co., Charlotte, N. C.
- Sewage-Pumping and Disposal Apparatus.**  
Pacific Flush-Tank Co., New York, N. Y.
- Sewer-Flushing Siphons.**  
Pacific Flush-Tank Co., New York, N. Y.
- Sewer Joint Compounds.**  
Pacific Flush-Tank Co., New York, N. Y.
- Sewer Pipe. (Vitrified.)**  
Bannon Pipe Co., P., Louisville, Ky.  
Cannellon Sewer Pipe Co., Cannellon, Ind.  
Macon Sewer Pipe Wks., Macon, Ga.  
Owensboro Sewer Pipe Co., Owensboro, Ky.  
Stevens Bros. & Co., Stevens Pottery, Ga.
- Shafting.**  
**COLD ROLLED STEEL.**  
American Steel & Wire Co., Chicago, Ill.  
**POLISHED STEEL.**  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Medart Patent Pulley Co., St. Louis, Mo.  
Republic Iron & Steel Co., Youngstown, O.  
Union Drawn Steel Co., Beaver Falls, Pa.
- Sharpening Stones.**  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.
- Sheet Brass and Copper.**  
Hungerford Brass & Copper Co., U. T., Balto., Md.  
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.
- Sheet Metal Work.**  
Gyro Metal Works, Norfolk, Va.  
Alex. Milburn Co., Baltimore, Md.  
National Blow Pipe & Mfg. Co., New Orleans, La.  
Niagara Falls Metal Stg. Wks., Niagara Falls, N. Y.  
Oden's-Hal-Monks Corp., Norfolk, Va.  
Shreveport Blow Pipe & S. I. Wks., Inc., Shreveport, La.  
**Steel Products. The Savannah, Ga.**  
Tennessee Metal Culvert Co., Nashville, Tenn.
- Sheet Metal Working Machinery.**  
Bliss Co., E. W., Brooklyn, N. Y.  
Stimpson Co., Edwin B., Brooklyn, N. Y.
- Sheet Steel and Iron.**  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
La Belle Iron Works, Steubenville, O.  
Republic Iron & Steel Co., Youngstown, O.  
Southern Sheet & Tin Plate Co., Ashland, Ky.  
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.  
Whitaker-Glesner Co., Portsmouth, O.  
Wood Iron & Steel Co., Alton, Philadelphia, Pa.  
Youngstown Sheet & Tube Co., Youngstown, O.
- Shelving. (Steel) Vanit. Store, etc.]**  
Van Harlingen, J. M., Atlanta, Ga.
- Sherardizing.**  
St. Louis Brass Mfg. Co., St. Louis, Mo.
- Shingles. (Metal.)**  
Berger Mfg. Co., Canton, Ohio.  
Cortright Metal Roofing Co., Philadelphia, Pa.  
Edwards Mfg. Co., Cincinnati, O.  
Hyndman Roofing Co., Cincinnati, O.  
Merchant & Evans Co., Philadelphia, Pa.  
Milwaukee Corrugating Co., Milwaukee, Wis.  
Southern Sheet & Tin Plate Co., Ashland, Ky.
- Shovels. (Steam, Gas, Electric and Power.)**  
The Automatic Shovel Co., Lorain, O.
- Shutters.**  
**IRON.**  
Bolles Iron & Wire Works, J. E., Detroit, Mich.  
**STEEL ROLLING.**  
Kinner Mfg. Co., Columbus, O.
- Silos. (Metal.)**  
Canton Culvert & Silo Co., Canton, O.  
Fouts Co., C. C., Middletown, O.  
Tennessee Metal Culvert Co., Nashville, Tenn.
- Skewers and Dowels. (Oil-less.)**  
Bound Brook Oil-less Brg. Co., Bound Brook, N. J.
- Skylights.**  
Chattanooga Roof & Fdry. Co., Chattanooga, Tenn.  
Hires Turner Glass Co., Washington, D. C.
- Skylights. (Puttyless.)**  
Asbestos Protected Metal Co., Pittsburgh, Pa.
- Slag.**  
Birmingham Slag Co., Birmingham, Ala.
- Slates. (Roofing, Sanitary, Structural, etc.)**  
Arvonis-Buckingham Slate Co., Inc., Richmond, Va.  
East Bangor Consol. Slate Co., East Bangor, Pa.  
Genuine Bangor Slate Co., Easton, Pa.  
Johnson, E. J., New York, N. Y.
- Sluice Gates and Appliances.**  
Coldwell-Wilcox Co., New York, N. Y.
- Smokestacks. (Iron and Steel.)**  
Chattanooga Boiler & Tank Co., Chat'n'gs., Tenn.  
Chicago Bridge & Iron Works, Chicago, Ill.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Lombard Iron Works, Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield Iron Works, Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.
- Soda. (Bicarbonate.)**  
Church & Dwight Co., New York, N. Y.
- Sodium Sulphide. (Fused 60 Per Cent.)**  
Kolin Chemical Co., Inc., Charleston, W. Va.
- Speed Changes. (Variable.)**  
Moore & White Co., The Philadelphia, Pa.
- Spelter.**  
New Jersey Zinc Co., New York, N. Y.
- Spikes. (Railroad.)**  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Larkin & Co., J. K., New York, N. Y.
- Sprinklers. (Automatic.)**  
Globe Automatic Sprinkler Co., Phila., Pa.
- Sprinkler Tank. (Steel.)**  
Chicago Bridge & Iron Works, Chicago, Ill.
- Spring Colling Machinery.**  
Sleeper & Hartley, Inc., Worcester, Mass.
- Springs. (Machinery, Railway, Spiral.)**  
Cary Spring Works, New York, N. Y.  
Raymond Mfg. Co., Ltd., Corry, Pa.
- Sprocket Rims. (Adjustable for Valves.)**  
Habbitt Steam Specialty Co., New Bedford, Mass.
- Stamp Mills.**  
Mecklenburg Iron Works, Charlotte, N. C.
- Stamps. (Brass, Rubber.)**  
Baltimore Office Supply Co., Inc., Baltimore, Md.  
Dorman Co., J. F. W., Baltimore, Md.
- Standpipes.**  
Chattanooga Boiler & Tank Co., Chat'n'gs., Tenn.  
Chicago Bridge & Iron Works, Chicago, Ill.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Hartley Boiler Works, Montgomery, Ala.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Struthers-Wells Co., Warren, Pa.
- Stationers. (Envelopes, Letter & Billhead, etc.)**  
Young & Selden Co., Baltimore, Md.
- Steam Feeds.**  
Soule Steam Feed Works, Meridian, Miss.
- Steam Fittings. (Cast Iron.)**  
Stockham Pipe & Fittings Co., Birmingham, Ala.
- Steamship Lines. (Coastwise.)**  
Baltimore Steam Packet Co., Baltimore, Md.  
Chesapeake Steamship Co., Baltimore, Md.
- Steam Hammers.**  
Niles-Bement-Pond Co., New York, N. Y.
- Steam Shovels.**  
American Clay Machy. Co., The Bucyrus, O.  
Fairbanks Steam Shovel Co., Marion, O.  
Keystone Driller Co., Beaver Falls, Pa.  
Osgood Co., The Marion, O.  
Sherwood, E. C., New York, N. Y.  
The Automatic Shovel Co., Lorain, O.
- Steam Shovel Chains.**  
American Chain Co., Bridgeport, Conn.
- Steam Specialties.**  
Habbitt Steam Specialty Co., New Bedford, Mass.  
Crane Co., Chicago, Ill.  
Lunkenheimer Co., The Cincinnati, O.
- Steam Traps.**  
Jenkins Bros., New York, N. Y.  
Johns-Manville Co., H. W., New York, N. Y.
- Steel.**  
Atlantic Steel Co., Atlanta, Ga.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Bourne-Fuller Co., The Cleveland, O.  
Carnegie Steel Co., Pittsburgh, Pa.  
Dietrich Bros., Baltimore, Md.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
La Belle Iron Works, Steubenville, O.  
Lackawanna Steel Co., Lackawanna, N. Y.  
Memphis Steel Const. Co., of Pa., Pittsburgh, Pa.  
Republic Iron & Steel Co., Youngstown, O.  
Taylor Co., Wm. S., Chattanooga, Tenn.  
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.  
Union Drawn Steel Co., Beaver Falls, Pa.  
Whitaker-Glesner Co., Portsmouth, O.  
Wood Iron & Steel Co., Alton, Philadelphia, Pa.  
Youngstown Sheet & Tube Co., The Youngstown, O.
- Steel.**  
**TOOL.**  
Bethlehem Steel Co., South Bethlehem, Pa.  
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.  
Union Drawn Steel Co., Beaver Falls, Pa.
- VANADIUM.**  
Carnegie Steel Co., Pittsburgh, Pa.  
Union Drawn Steel Co., Beaver Falls, Pa.
- Steel Buildings. (Designers, Builders.)**  
American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Case Crane & Engineering Co., Columbus, O.  
Champion Bridge Co., Wilmington, O.  
Chesapeake Iron Works, Baltimore, Md.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Memphis Steel Const. Co., of Pa., Pittsburgh, Pa.  
Phoenix Iron Co., Philadelphia, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Richmond Structural Steel Co., Richmond, Va.  
Sneed Architectural Iron Works, Louisville, Ky.  
Virginia Bridge & Iron Co., Roanoke, Va.
- Steel Castings.**  
Crucible Steel Castings Co., Landsdowne, Pa.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Riverside Steel Casting Co., Newark, N. J.
- Steel Mill Equipment.**  
Treadwell Engineering Co., Easton, Pa.
- Steel Plate Work.**  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chat'n'gs., Tenn.  
Chesapeake Iron Works, Baltimore, Md.  
Chicago Bridge & Iron Works, Chicago, Ill.  
Contestville Boiler Works, Contestville, O.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Memphis Steel Const. Co., of Pa., Pittsburgh, Pa.  
Phoenix Iron Co., Philadelphia, Pa.  
Struthers-Wells Co., Warren, Pa.
- Steel Sheet Piling.**  
Carnegie Steel Co., Pittsburgh, Pa.  
Franks, J. E., Atlanta, Ga.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.  
Zelnicke Supply Co., Walter A., St. Louis, Mo.
- Stencils.**  
Baltimore Office Supply Co., Inc., Baltimore, Md.  
Dorman Co., J. F. W., Baltimore, Md.
- Stock Certificates, Bonds and Seals.**  
Baltimore Office Supply Co., Inc., Baltimore, Md.  
Dorman Co., J. F. W., Baltimore, Md.
- Stokers. (Mechanical.)**  
Babcock & Wilcox Co., New York, N. Y.  
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.
- Stone. (Building.)**  
Foster & Creighton Co., Nashville, Tenn.  
Kirkpatrick Sand & Cement Co., Birm'gh'm, Ala.
- Stone and Gravel Plant Equipment.**  
Weiler Mfg. Co., Chicago, Ill.
- Storage Batteries.**  
Electric Storage Battery Co., Philadelphia, Pa.
- Store Fronts. (Glass.)**  
Hires-Turner Glass Co., Washington, D. C.
- Store Fronts. (Metal.)**  
Milwaukee Corrugating Co., Milwaukee, Wis.  
Zouri Drawn Metals Co., Chicago, Ill.
- Stove Trimmings.**  
Fanner Mfg. Co., The Cleveland, O.
- Strapping Leather.**  
Graton & Knight Mfg. Co., Worcester, Mass.
- Structural Steel and Iron.**  
American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bethlehem Steel Co., South Bethlehem, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Case Crane & Engineering Co., Columbus, O.  
Champion Bridge Co., Wilmington, O.  
Chesapeake Iron Works, Baltimore, Md.  
Cincinnati Iron Works, Phila., Cincinnati, O.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Dietrich Bros., Baltimore, Md.  
Hoffman & Co., Inc., R. C., Baltimore, Md.  
Huntington Iron Works, Huntington, W. Va.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.
- Lackawanna Steel Co., Lackawanna, N. Y.**  
**Memphis Steel Const. Co., of Pa., Pittsburgh, Pa.**  
**Phoenix Iron Co., Philadelphia, Pa.**  
**Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.**  
**Reilly Mfg. Co., J. J., Louisville, Ky.**  
**Republic Iron & Steel Co., Youngstown, O.**  
**Richmond Structural Steel Co., Richmond, Va.**  
**Ronoke Iron & Bridge Works, Inc., Roanoke, Va.**  
**Saife & Sons Co., Wm. B., Pittsburgh, Pa.**  
**Sneed Architectural Iron Works, Louisville, Ky.**  
**Southern Sheet & Tin Plate Co., Ashland, Ky.**  
**Steel Products Co., The Savannah, Ga.**  
**Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.**  
**Vincennes Bridge Co., Vincennes, Ind.**  
**Virginia Bridge & Iron Co., Roanoke, Va.**
- Sulphur.**  
Union Sulphur Co., New York, N. Y.
- Sulphuric Acid.**  
Davison Chemical Co., Baltimore, Md.
- Super-Heaters. (Steam.)**  
Babcock & Wilcox Co., New York, N. Y.  
Power Specialty Co., New York, N. Y.
- Surveying Instruments.**  
Weber & Co., F., Philadelphia, Pa.
- Swinging Engines.**  
Dake Engine Co., Grand Haven, Mich.
- Switchboards, Switches, etc.**  
General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
- Switches. (High Voltage, Electric.)**  
Railway & Industrial Engr. Co., Pittsburgh, Pa.
- Switchstands.**  
Bethlehem Steel Co., South Bethlehem, Pa.  
Weir Frog Co., Cincinnati, O.
- Tackle Blocks. (For Wire or Manila Rope.)**  
Broderick & Bascom Rope Co., St. Louis, Mo.
- Talc Products.**  
De Soto Talc Co., Chatsworth, Ga.  
Georgia Talc Co., Asheville, N. C.  
Gregory Talc Co., Nashville, Tenn.
- Tanks.**  
**CORRUGATED METAL K. D.**  
Tennessee Metal Culvert Co., Nashville, Tenn.  
**IRON AND STEEL.**  
American Bridge Co., New York, N. Y.  
American Water Softener Co., Philadelphia, Pa.  
Cassell Co., Inc., W. E., Louisville, Ky.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chat'n'gs., Tenn.  
Chicago Bridge & Iron Works, Chicago, Ill.  
Contestville Boiler Works, Contestville, O.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Fouts Co., C. C., Middletown, O.  
Hartley Boiler Works, Montgomery, Ala.  
Hendricks Mfg. Co., Carbondale, Pa.  
Lombard Iron Works, Augusta, Ga.  
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.  
Memphis Steel Const. Co., of Pa., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield Iron Works, Macon, Ga.  
Southern Boiler & Tank Works, Memphis, Tenn.  
Struthers-Wells Co., Warren, Pa.  
Tennessee Metal Culvert Co., Nashville, Tenn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Walsh & Weidner Boiler Co., Chattanooga, Tenn.
- PACKING HOIST.**  
Dayton Heater & Hoist Co., Dayton, O.
- WOOD.**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.
- Tapes. (Measuring.)**  
Lufkin Rule Co., Saginaw, Mich.  
Starrett Co., L. S., Athol, Mass.
- Telephones. (Supplier, Equipment.)**  
Piedmont Electric Co., Asheville, N. C.  
Western Electric Co., New York, N. Y.
- Telephones Service.**  
American Telephone & Telegraph Co.
- Terra-Cotta. (Ornamental.)**  
Atlanta Terra-Cotta Co., Atlanta, Ga.  
Southern Building Material Co., Norfolk, Va.
- Threshers.**  
Cardwell Machine Co., Richmond, Va.
- Tiering Machines. (Portable.)**  
Economy Engineering Co., Chicago, Ill.
- Tile.**  
**DRAIN.**  
Oconee Brick & Tile Co., Milledgeville, Ga.  
**FLOOR, WALL, MANTEL, ETC.**  
Amer. Enam. Brick & Tile Co., New York, N. Y.  
Hood Brick Co., B. Miffin, Atlanta, Ga.  
Northcross Mantel Co., W. J., Memphis, Tenn.
- STRUCTURAL.**  
Oconee Brick & Tile Co., Milledgeville, Ga.
- Timbers. (Creosoted.)**  
American Creosote Works, New Orleans, La.  
Republic Creosoting Co., Indianapolis, Ind.
- Time Recorders.**  
Eco Clock Co., Boston, Mass.  
Hardinge Bros., Inc., Chicago, Ill.  
Newman Clock Co., New York, N. Y.
- Tin and Terne Plates.**  
American Sheet & Tin Plate Co., Pittsburgh, Pa.
- Tobacco Machinery.**  
American Machine & Fdry. Co., Brooklyn, N. Y.  
Buckeye Iron & Brass Works, Dayton, O.  
Cardwell Machine Co., Richmond, Va.  
Ripley Foundry & Machine Co., Ripley, O.
- Tools.**  
**MECHANICAL.**  
Starrett Co., L. S., Athol, Mass.  
**PNEUMATIC.**  
Chicago Pneumatic Tool Co., Chicago, Ill.  
Independent Pneumatic Tool Co., Chicago, Ill.  
Ingersoll-Rand Co., New York, N. Y.
- Torches.**  
Wall Mfg. Supply Co., F., Allegheny, Pa.
- Towers.**  
**ELECTRIC TRANSMISSION.**  
American Bridge Co., New York, N. Y.  
**STEEL AND WOOD.**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Chattanooga Boiler & Tank Co., Chat'n'gs., Tenn.  
Chesapeake Iron Works, Baltimore, Md.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Walsh & Weidner Boiler Co., Chattanooga, Tenn.
- TRAMWAY.**  
**OVERHEAD.**  
Spindel, J. G., Reading, Pa.  
Yale & Towne Mfg. Co., New York, N. Y.  
**WIRE ROPE.**  
American Steel & Wire Co., Chicago, Ill.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Waterbury Co., New York, N. Y.





## E

Eagle Pipe Supply Co., Inc. 90  
East Bangor Con. Slate Co. 90  
East Iron & Machine Co. 90  
Easton Machinery Co. 88, 90  
Ehinger, D. A. Sanitary Mfg. Co. 90  
Eco Clock Co. 90  
Economy Engineering Co. 90  
Edison Lamp Wks. 90  
Edwards, Geo. B. 90  
Edwards Mfg. Co. 90  
Electric Bond & Share Co. 90  
Electric Storage Battery Co. 90  
Electric Wheel Co. 90  
Elrod, Henry Exall 90  
Ellis Machine Co. 90  
Emerson Pump & Valve Co. 90  
Empire & Elsenbrey 90  
Empire Mch. & Supply Corp. 90  
English Sash & Lumber Co. 90  
Equity Equipment Co. 90  
Erie Perforating Co. 90  
Erie Machine Shops 90  
Eureka Fire Hose Mfg. Co. 90  
Evans & Co., Victor J. 90

## F

Fairbanks Steam Shovel Co. 90  
Fanner Mfg. Co. 90  
Federal Motor Truck Co. 90  
Fennell's Brick Mch. Co. 90  
Fidelity & Deposit Co. of Md. 90  
First Nat'l Bank of Birmingham 90  
First Nat'l Bank, Richmond, Va. 90  
Fisher & Mar. 90  
Fleet-McGinley Co. 90  
Fleming, J. N. 90  
Flintkote Mfg. Co. 90  
Florida East Coast Rwy. 90  
Flory Mfg. Co., S. 90  
Foss Gas Engine Co. 90  
Ford, Bacon & Davis 90  
Ford Chain Block & Mfg. Co. 90  
Fort Worth Laboratories 90  
Foster Co., L. B. 90  
Foster & Creighton Co. 90  
Fouts Co., G. C. 90  
Frank, M. K. 90  
Franks, J. E. 90  
Franz, Walter G. 90  
Freeland-Klyce Engr. Co. 90  
Freese & Co., E. M. 90  
French Oil Mill Mch. Co. 90  
Frick Co. 90  
Froehling & Robertson 90

## G

Gandy Belting Co. 90  
Gardner, Inc., James T. 90  
Gardner & Howe 90  
Garford Motor Truck Co. 90  
Gassman, Howard M. 90  
General Electric Co. 90  
General Motors Truck Co. 90  
Genuine Bangor Slate Co. 90  
Georgia Car & Loco. Co. 90  
Georgia-Carolina Brick Co. 90  
Georgia Railroad 90  
Georgia Talc Co. 90  
Gerdes & Co. 90  
Glamorgan Pipe & Fdry. Co. 90  
Glasgow Clay Products 90  
Globe Automatic Sprinkler Co. 90  
Golden's Fdry. & Mch. Co. 90  
Goodrich Rubber Co., The B. F. 90  
Goodyear Tire & Rubber Co. 90  
Goulds Manufacturing Co. 90  
Grainger & Co. 90  
Granite Paving Blk. Mfrs. Assn. 90  
Grant, Jr., W. E. 90  
Graton & Knight Mfg. Co. 90  
Graves Engineering Co., Inc. 90  
Green Fuel Economizer Co. 90  
Gregory Talc Co. 90  
Guendler Patent Crusher & Pulv. Co. 90  
Gualdape River Navigation Co. 90  
Guarantee Constr. Co. 90  
Gueringer, L. A. 90  
Gulf Refining Co. 90  
Gulf States Steel Co. 90  
Gulf Woodworking Co. 90  
Gunter & Co. 90  
Guyardotte Coal Co. 90  
Gyro Metal Works 90

## H

Habirshaw Electric Cable Co., Inc. 90  
Hains Mfg. Co., Inc., Geo. 90  
Hammond-Byrd Iron Co. 90  
Hammond Heating Co. 90  
Hanson-Gregory Galvanizing Co. 90  
Hardie-Tynes Mfg. Co. 90  
Harding Bros., Inc. 90  
Harrisburg Fdry. & Mch. Wks. 90  
Harris Bros. Co. 90  
Hartford Steam Boiler Insurance & Inspection Co. 90  
Hartley Boiler Works 90  
Hautman & Lech Co., Ltd. 90  
Hayward Co., The 90

Hedrick & Hedrick 90  
Hendrick Mfg. Co. 90  
Hercules Powder Co. 90  
Hersey Mfg. Co. 90  
Hill-Brunner Fdry. Supply Co. 90  
Hires Turner Glass Co. 90  
Hittner's Sons Co., Henry A. 90  
Hoffman & Co., R. C., Inc. 90  
Hoisting Engine Sales Co. 90  
Holland Machine Co. 90  
Hood Brick Co., B. Mifflin 90  
Hopewell Board of Trade 90  
Hotel Essex 90  
Houston, Stanwood & Gamble Co. 90  
Hughes Specialty Well Drilling Co. 90  
Hull's Sons, D. F. 90  
Humphrey, C. W. 90  
Hungerford Brass & Copper Co., U. T. 90  
Hunt Engr. Co. 90  
Hunt Co., C. W., Inc. 90  
Hunt & Co., Robert W. 90  
Huntington Iron Works 90  
Huther Bros. Saw Mfg. Co., Inc. 90  
Hytterville Ice Corp. 90  
Hydraulic-Press Brick Co. 90  
Hyndman Roofing Co. 90

## I

Ideal Concrete Mch. Co. 90  
Ideal Engine Co. 90  
Illinois Central Railroad Co. 90  
Independent Pneumatic Tool Co. 90  
India Alkali Works 90  
Industrial Lumber Co. 90  
Industrial Service Co. 90  
Industrial Welding Co. 90  
Ingersoll-Rand Co. 90  
Institute of Industrial Research 90  
International Filter Co. 90  
International Motor Co. 90  
Irving-Pitt Mfg. Co. 90

## J

Jaeger Mch. Co. 90  
James & Breckler 90  
James River Fdry. & Mch. Co. 90  
Janney & Co. 90  
Jeffrey Mfg. Co. 90  
Jerome Real Estate & Ins. Co. 90  
Jenkins Bros. 90  
Johns-Manville Co., H. W. 90  
Johnson, Inc., E. J. 90  
Johnson, Inc., Edward E. 90  
Johnston & Jennings Co., The 90  
Jones & Laughlin Steel Co. 90  
Jones Machinery Co., K. L. 90  
Joseph Iron Co., The Isaac 90

## K

K-B Pulverizer Co., Inc. 90  
K. C. Elevator Mfg. Co. 90  
Keighley Metal Ceiling & Mfg. Co., S. 90  
Kelly, Cooke & Co. 90  
Kemp Mfg. Co., G. M. 90  
Keystone, Inc., H. S. 90  
Keystone Driller Co. 90  
Keystone Pipe & Supply Co. 90  
Kilbourne & Jacobs Mfg. Co. 90  
Kilby Bros. & Smith Co. 90  
Kimball Bros. Co. 90  
Kingsport Brick Corp. 90  
Kinross Mfg. Co., The 90  
Kinross Mfg. Co., The 90  
Knappe & Co., Inc. 90  
Klein & Co., Inc., Nathan 90  
Kleybolte Co., Rudolph 90  
Kline, Lewis T. 90  
Knight & Quayle 90  
Knowles, Morris 90  
Koehring Machine Co. 90  
Kosmos Portland Cement Co., Inc. 90

## L

La Belle Iron Works 90  
Lackawanna Steel Co. 90  
Lacoste Steel Co. 90  
La Follette Coal & Iron Co. 90  
Landray, Geo. J. 90  
Lane & Co., Inc., C. W. 90  
Lane Bros. Co. 90  
Larkin & Co., J. K. 90  
Law & Co., A. M. 90  
Layne & Bowler Co. 90  
Leach & Co., A. B. 90  
Leffel & Co., James 90  
Lehigh Car Wheel & Axle Wks. 90  
Lehman, Chas. T. 90  
Levis & Co., Henry 90  
Lewis Co., Ralph R. 90  
Lewis, Frederick H. 90  
Lide, Martin J. 90  
Lidgerwood Mfg. Co. 90  
Lincoln Electric Co. 90  
Linde Air Products Co. 90  
Link Belt Co. 90  
Loco 90  
Little, Inc., Arthur D. 90  
Lodge & Shipley Mch. Tool Co. 90  
Lombard Iron Works 90  
Lookout Boiler & Mfg. Co. 90

Loud, H. K. 90  
Louisville Fire Brick Works 90  
Louisville Gas & Elec. Co., Inc. 90  
Lowell Crayon Co. 90  
Ludlow-Saylor Wire Co. 90  
Lufkin Rule Co., The 90  
Lunkenheimer Co., The 90  
Luten, Daniel B. 90

## M

McCalla Co., Harold 90  
McCormick & Son 90  
McCormick, Chas. 90  
McCrory Co., J. B. 90  
McKee & Co., Arthur G. 90  
McKenna Brass & Mfg. Co., Inc. 90  
McLanahan-Stone Mch. Co. 90  
McLean, Chas. A. 90  
Machinery Exchange Co. 90  
Machinery & Supply Co. 90  
Machine Service Co. 90  
Macon Fuel & Supply Co. 90  
Macon Sewer Pipe Works 90  
Main Belting Co. 90  
Main, Charles T. 90  
Males Co. 90  
Manhattan Perforated Metal Co. 90  
Mansfield Engr. Co. 90  
Marine Metal & Supply Co. 90  
Markley, S. Chester 90  
Marsh, Clarence W. 90  
Maryland Trust Co. 90  
Master Builders Co., The 90  
Mathews Gravity Carrier Co. 90  
Meads, Richard E. 90  
Mecklenburg Iron Works 90  
Medart Patent Pulley Co. 90  
Memphis Steel Constr. Co. 90  
Mercantile Trust Co. 90  
Mercantile Trust & Deposit Co. 90  
Merchant & Evans Co. 90  
Merchants-Mechanics First National Bank 90  
Metalline Co., The 90  
Metzger, Louis H. 90  
Meyers Mfg. Co., The Fred. J. 90  
Michal & Dvorn 90  
Michigan Pipe Co. 90  
Mid-West Iron Co. 90  
Mietz Corp., August 90  
Milburn Co., Alex. The 90  
Milburn, Heister & Co. 90  
Milton Mfg. Co. 90  
Milwaukee Corrugating Co. 90  
Mines Efficiency Co. 90  
Missouri Malleable Iron Co. 90  
Modern Machinery Exchange 90  
Moffatt Machinery Mfg. Co. 90  
Mole, H. E. 90  
Monaghan Mch. Co. 90  
Moore & Co., W. E. 90  
Moore Brothers of Chicago 90  
Moore Dry Kiln Co., L. 90  
Moore & Sons Corp., Samuel L. 90  
Moore & White Co., The 90  
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Swind Machinery Co. 90

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Zelnicker Supply Co., Walter A. 90  
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See Pages 82 and 83

Proposal Advertisements

See Pages 84 and 85

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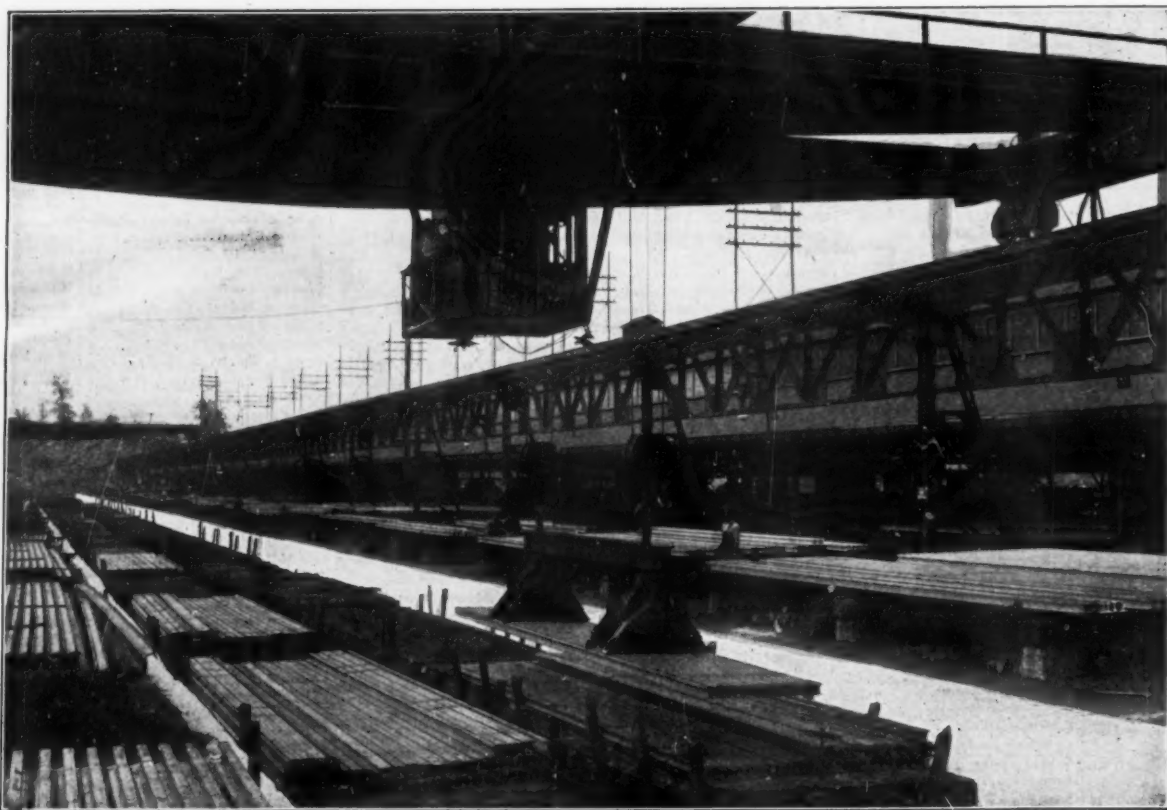
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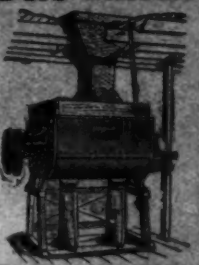
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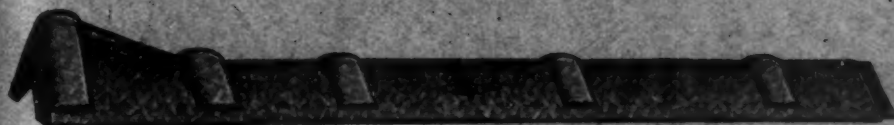
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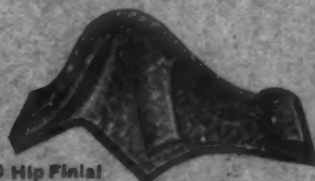
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